



Product Selection Guide

Miniature Circuit Breakers/DC Miniature Circuit Breakers
Molded Case Circuit Breakers/Air Circuit Breakers/Automatic Transfer Switches
Load Break Switch/Digital Power Meters



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Miniature Circuit Breakers



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81 VS1-12 Indoor High
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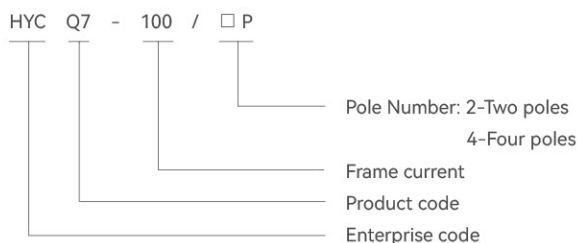


HYCQ7 Automatic Transfer Switches

Features

- ◆ HYCQ7 dual power automatic transfer switches are newly developed miniature household power transfer switches. This switch is mainly used to test whether the normal or backup power supply is normal. When the city power supply is abnormal, the backup power supply will work immediately to ensure the continuity, reliability and safety of the power supply. This product is specially designed for home track TV installation and is specially used for Pz30 distribution box.
- ◆ HYCQ7 automatic transfer switches are suitable for emergency power system 400V, 60A with AC rated current of 50V or 60Hz, compact structure, reliable conversion, easy installation and maintenance, long life. It is widely used in various occasions where continuous power failure is not allowed. It can be operated electrically or manually by ATS, and the controller.
- ◆ Complies with requirements of Low-voltage Switch Gear and Control Gears specified by IEC 60947-6-1 and IEC60947-3: functional equipment and transfer switch equipment.

Model description



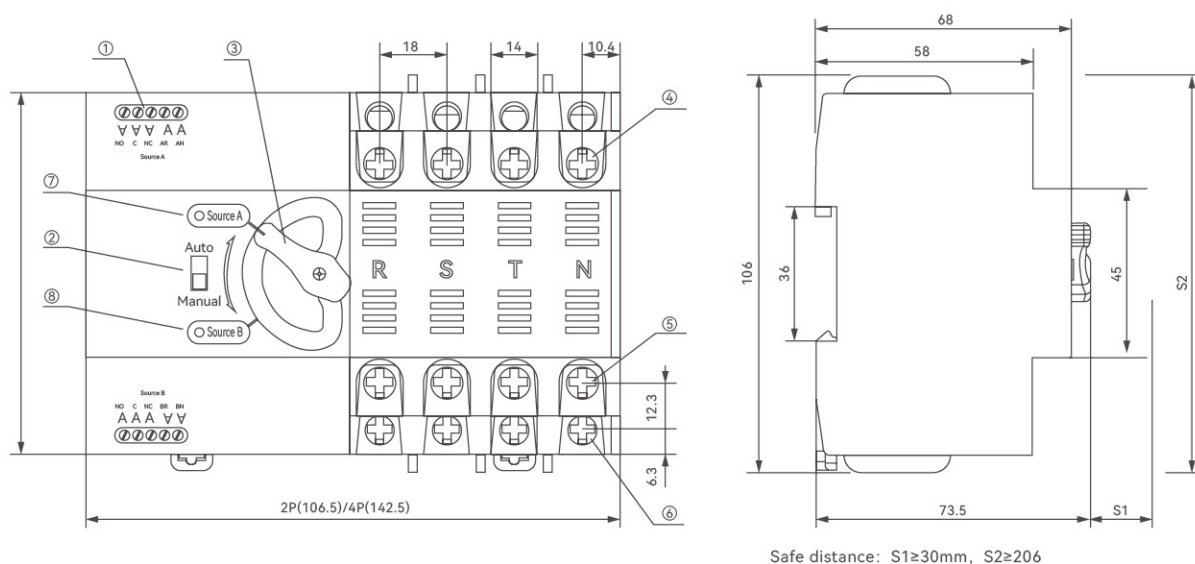
Normal Working Conditions

- ◆ Ambient temperature: the upper limit does not exceed + 40°C . The average value of 24h does not exceed + 35°C , and the lower limit is not lower than -5°C .
- ◆ The altitude is higher than the installation site and the altitude does not exceed 2000m.
- ◆ When the highest atmospheric temperature is +40 °C , the relative humidity of the atmosphere at the installation site should not exceed 50%. At lower temperatures, higher relative humidity is allowed, for example, temperature +25 °C , relative humidity is 90%. Due to temperature changes, occasionally measures should be taken to prevent condensation on the surface of the product.
- ◆ Pollution degree The pollution degree of TSE complies with the level 3 specified by IEC. The installation category of 60947-6-1 and IEC 60947-I cateaory TSE conforms to the category specified by IEC Installation conditions can be installed vertically in a or power distribution cabinet. Make sure: the installation distance S is as shown in the figure.1 ...

The main technical parameters

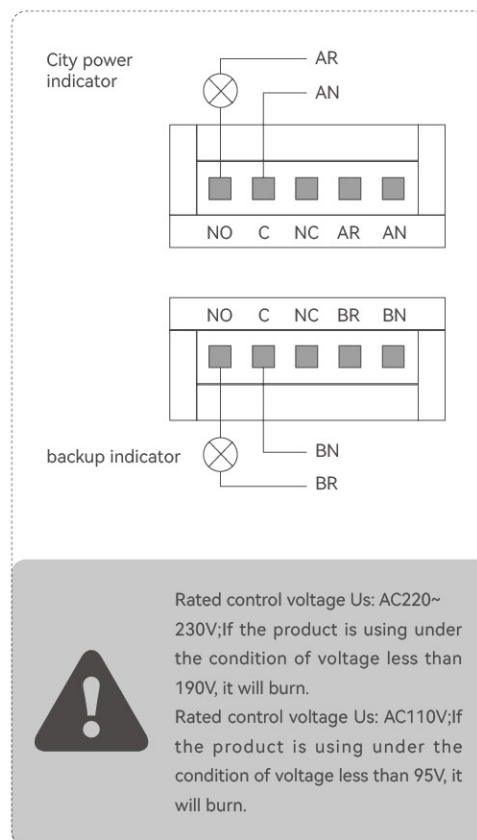
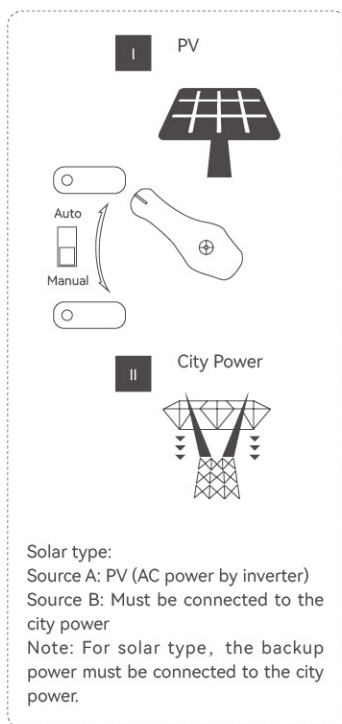
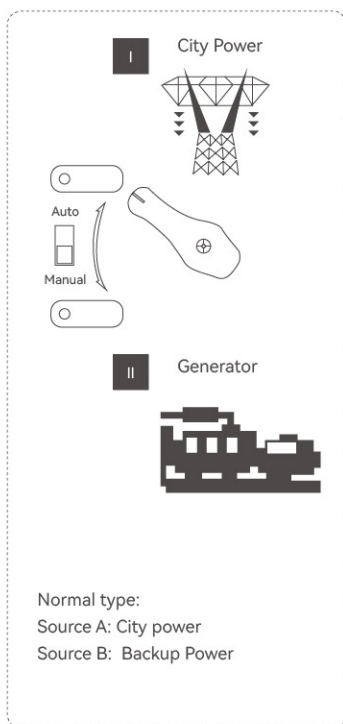
Model	HYCQ7	
Rated current Ie A	10 16 20 25 32 40 50 63	80 100
Insulation voltage Ui	AC 690V	
Rated voltage Ue	2P: AC230V	4P: AC400V
Grade	Grade PC:able to male and withstand, not to break short-circuit current	
Use category	AC-33iB	
Pole	2P	4P
Weight(kg)	0.68	0.91
Life	Electrial:2000times; Mechanical:5000times	
Rated conditional short-circuit current Iq	50kA	
SCPD (fuse)	RT16-00-63A	
Rated impulse withstand voltage	8kV	
Control circuit	Rated control voltage Us:AC220V, 50Hz Correct working condition 85%Us- 110%Us	
Auxiliary circuit	AC220V/AC110V50/60HZ	
Contact transfer time	<50ms	
Operating transfer time	<50ms	
Return transfer time	<50ms	
Off-time	< 50ms	
Temperature range	-5°C ~+40°C average temperature not more than 35°C in 24 hours	

Shape and installation dimensions



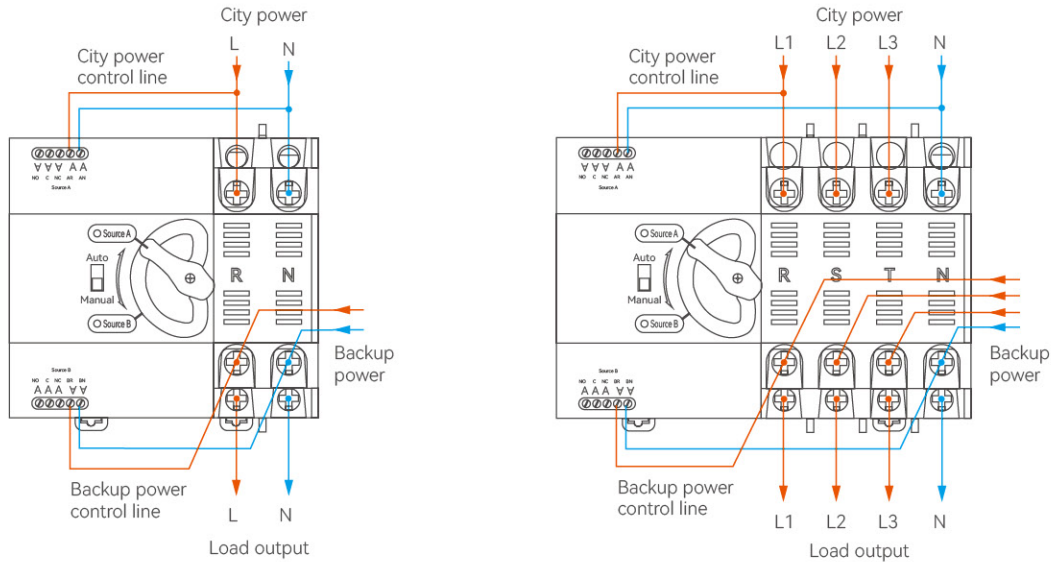
- ① Control power
- ② Selection switch(Auto/manual)
- ③ manual knob
- ④ Source A terminal side
- ⑤ Source B terminal side
- ⑥ Load side main circuit terminal
- ⑦ Source A indicator
- ⑧ Source B indicator

Panel Description



- Note: 1. Solar type: The output power of the inverter reaches 1.5KW to supply power to the AR and AN terminals of the automatic transfer switch.
 2. It is recommended to add overvoltage and undervoltage protectors to the circuit to prevent damage to the automatic transfer switch.

Wiring diagram



Installation, use and maintenance

- ◆ Maintenance and inspection should be performed by professionals, and all power sources should be cut off in advance.
- ◆ To ensure the good performance of the dual power supply, the first maintenance and inspection should be carried out within 6 months after use, and maintained and inspected at least once a year. If the installation conditions are harsh, the frequency of maintenance and inspection should be increased.
- ◆ Please remove dust and dirt in the event of failure, check whether the electrical contact parts are deformed and damaged, and remove charred metal particles attached to and around the surface. If the contacts are deformed or damaged, replace the dual power supply immediately.
- ◆ Due to long-term moisture and in a suspended state, please dry the dual power supply before use. After removing dust and dirt, use a 500V megohmmeter to measure the insulation resistance. Normal supply, alternate power supply, load side, including live parts and metal plates. The insulation resistance between the two, and the insulation resistance should not be less than 10MΩ.
- ◆ The dual power supply should be stored in an environment equivalent to the normal working environment, with dust-proof, moisture-proof and anti-collision measures.

Precautions

- ◆ Manual/automatic operation
Dual power supplies can guarantee the performance of energizing and de-energizing in circuit operation, but for manual operation, the above performance is not guaranteed due to differences in generation and de-energization speeds or operators. Excessive silver alloy loss may occur during manual energization and de-energization, so when all power is cut off to check and maintain the operating system and contacts, simply move the selector switch to the manual position. Under normal circumstances, please turn the selector switch to the automatic position. When operating manually, turn the selector switch to the manual position. After the manual operation is completed, finally turn the selector switch from the manual position to the automatic position.
- ◆ Control circuit
The dual power supply adopts electromagnetic instantaneous switching device. After the conversion is completed, the coil in the control circuit will be disconnected by the internal limit switch. The rated voltage is between 80% and 110%, and the coil can operate normally. If the voltage is too low, the switching torque will be caused. Insufficient, the coil control power cannot be disconnected in time, causing the coil to heat up or even spontaneously ignite.
- ◆ Warranty coverage
From the date of delivery, it is 12 months. If it is the company's production quality problem, the company is responsible for replacement or repair; Product damage caused by natural disasters is not covered by the warranty, but the company can provide paid repair or replacement.

Ordering instructions

The product model, rated current, working voltage and quantity shall be indicated when ordering.
Example: gloq7-100 63A AC220V 200 sets

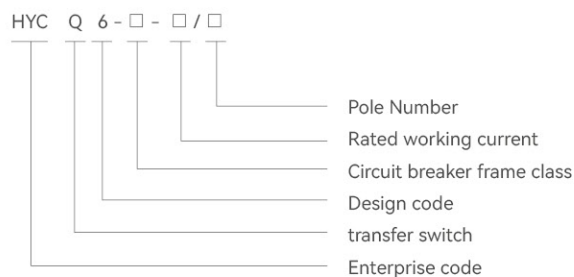


HYCQ6 Automatic Transfer Switches

Features

- ◆ HYCQ6 series automatic transfer switch is a circuit breaker type automatic switching device, suitable for AC 50Hz, rated voltage 400V/230V; rated current up to 10A-250A three phase four wire two ways power supply grid, When one power supply fails (only the normal A-phase voltage and backup A-phase voltage are detected, and only the voltage loss and phase loss are detected), one or more load circuits are automatically connected from one power supply to another power supply to ensure the normal power supply of the load voltage
- ◆ Standard: IEC60947-6-1 & GB/T14048.11-2016.
- ◆ Ambient air temperature: the upper limit is +40° C, the lower limit is -5° C;
- ◆ The altitude of the installation site shall not exceed 2000m;
- ◆ The pollution level is 3;
- ◆ The installation category is Class III;
- ◆ Installation conditions: The switch can be installed vertically or horizontally.

Model description



Product Features

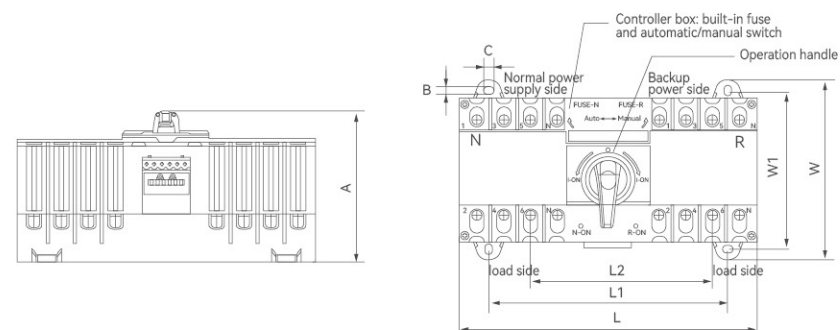
- ◆ The operating voltage of the switch controller is AC220V;
- ◆ The mechanical life of the switch (N-R-N material cycle) is 5000 times;
- ◆ The switch is equipped with an operating handle, which is used as an emergency manual operation switch; (used in the case of power failure).
- ◆ There are three stable working states:
 State I : Normal power supply is closing, and backup power supply is opening;
 Status II : Normal power supply is opening, and backup power supply is closing;
 Status III : Normal power supply is opening, and backup power supply is opening.

The main technical parameters

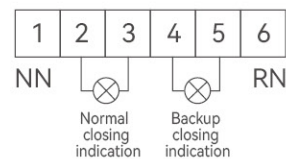
Model	HYCQ6-63	HYCQ6-125	HYCQ6-250
Rated current(I _A)	6,10,16,20,25,32,40,50,63	100,125	225, 250
Electrical level	Class CB		
use category	AC~33iB		
trip current	5~10I _n (Type C), 10~15I _n (Type D)		
Rated working voltage U _e	220V(2P) 、400V(3P、4P)		
Rated frequency	50Hz		
Rated short-circuit making capacity I _{cm} (peak value)	7.65kA	17kA	25kA
Rated short-circuit breaking capacity I _{cn} (effective value)	5kA	10kA	12kA

Shape and installation dimensions

- ◆ HYCQ6-63 Shape and installation dimensions



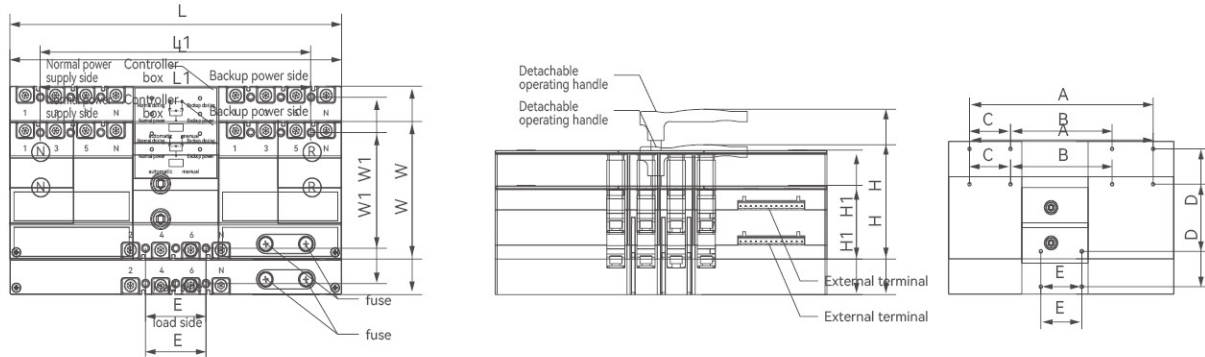
Wiring diagram



Model	A	B	C	L	L1	L2	W	W1
HYCQ6-63	100	5	7	200(4P) 128(2P)	160(4P) 88(2P)	121.5	120	105

Shape and installation dimensions

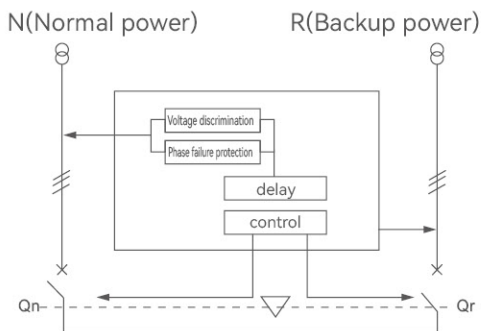
◆ HYCQ6-125~250 Shape and installation dimensions



Model	A	B	C	D	E	L1	L2	W	W1	H	H1
HYCQ6-125	269	149	60.5	144	60	330	269	165	144	172	105
HYCQ6-250	298	158	70	165.5	70	370	298	190	165	172	105

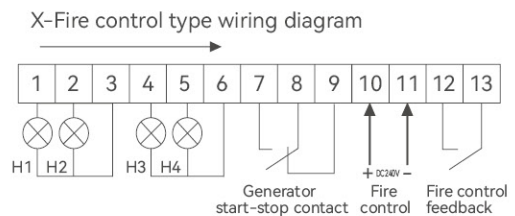
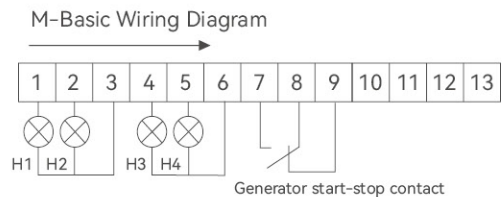
Working principle

- ◆ N is the normal power supply, and R is the backup power supply. Qn is the normal power control circuit breaker, and Qr is the backup power control circuit breaker. The two circuit breakers have double protection by mechanical interlocking. The controller consists of four parts: voltage identification, phase failure protection and control. Voltage identification and phase failure protection sampling power supply input terminal. When the normal power supply is normal, the switch works in the automatic mode, regardless of whether the Qr is in the "on" or "off" state, the Qr opening and Qn closing procedure are completed first to ensure that the normal power supply is connected to the load.
- ◆ When the normal power supply fails, (loss of voltage, undervoltage, phase loss), within a certain period of time, the load is switched from the normal power supply to the backup power supply, and when the normal power supply returns to normal, the load is returned to the normal power supply.



Terminal wiring diagram

- ◆ The switch control circuit breaker is composed of a 4 pole molded case circuit breaker. The switch can be operated automatically and manually, and can realize automatic and forced load switching of two way power supply. According to the user's requirements, the normal power supply indication and the backup power supply indication are connected from the external terminal and led to the control panel.
- ◆ This series of automatic transfer switches is simple in plotting and does not need to draw a secondary wiring diagram, which greatly facilitates engineering design. The external wiring diagram is shown below. (The indicator adopts ADI AC220V specification).



- ① H1 is a normal power supply external indication
- ② H2 is a normal closing external indication
- ③ H3 is a backup power supply external indication
- ④ H4 is a backup closing external indication



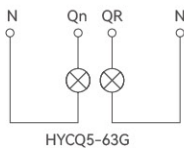
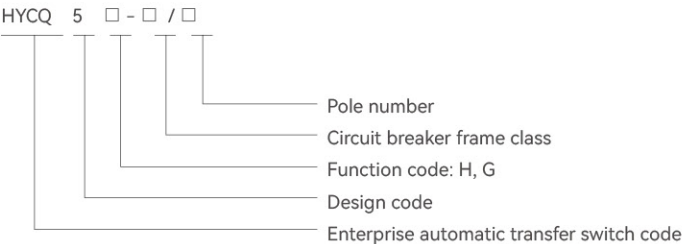
HYCQ5-63 Series Automatic Transfer Switches

Features

- ◆ HYCQ5-63 series of automatic transfer switch is composed of small circuit breaker stand-alone operating mechanism, control circuit, etc. All components are installed on the same base plate. The control power supply voltage of the automatic transfer switch is AC230V, and the mechanical life is 5000 times.
- ◆ HYCQ5-63 series of automatic controller (only capable of self-switching and self-recovery) simultaneously detects the phase voltage (automatic control power supply) of two power supplies (referred to as normal power supply and backup power supply) at the same time. When the normal power supply is abnormal, the small circuit breaker When there is voltage loss or phase loss in the A phase of the power supply, the automatic controller makes the device switch to the backup power supply without delay; when the normal power supply returns to normal, the automatic controller makes the device return to the normal power supply without delay. Two power sources are abnormal at the same time.

HYCQ5-63 DZ47 Type Automatic Transfer Switches

Model description



Normal Working Conditions

- ◆ Ambient air temperature range: -5°C to $+40^{\circ}\text{C}$;
- ◆ Altitude: the altitude of the installation site shall not exceed 2000m;
- ◆ Atmospheric conditions: When the maximum temperature is $+40^{\circ}\text{C}$, the relative humidity of the air does not exceed 50%, and a higher relative temperature can be allowed at lower temperatures, such as 90% at $^{\circ}\text{C}$, and the condensation due to temperature changes should be taken. special measures;
- ◆ Pollution level: 3;
- ◆ Electrical level: Class CB .

structure and performance

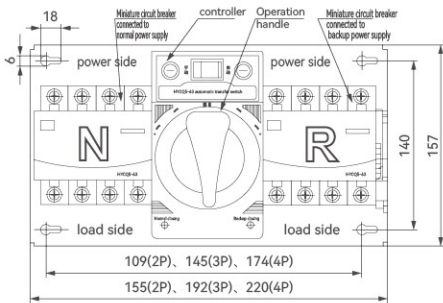
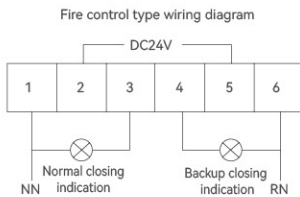
◆ Structure

HYCQ5-63 series of automatic transfer switch is composed of small circuit breaker stand-alone operating mechanism, control circuit, etc. All components are installed on the same floor. The control power supply voltage of the automatic transfer switch is AC230V, and the mechanical life is 5000 times.

◆ Performance

HYCQ5-63 automatic controller (only capable of self-switching and self-recovery) simultaneously detects the phase voltage (automatic control power supply) of two power supplies (referred to as common power supply and backup power supply), when the common power supply is abnormal, that is, a small circuit breaker When the A-phase of the A-phase loses voltage or lacks phase elbow, the automatic controller makes the device switch to the standby power supply without delay; when the common power supply returns to normal, the automatic controller makes the device return to the common power supply without delay. Two power sources are abnormal at the same time.

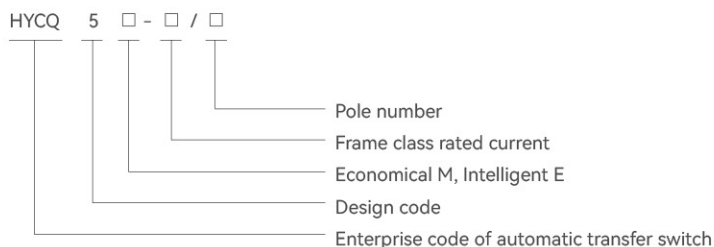
Shape and installation dimensions



HYCQ5-63G

HYCQ5 Series Automatic Transfer Switches

Model description



The main technical parameters

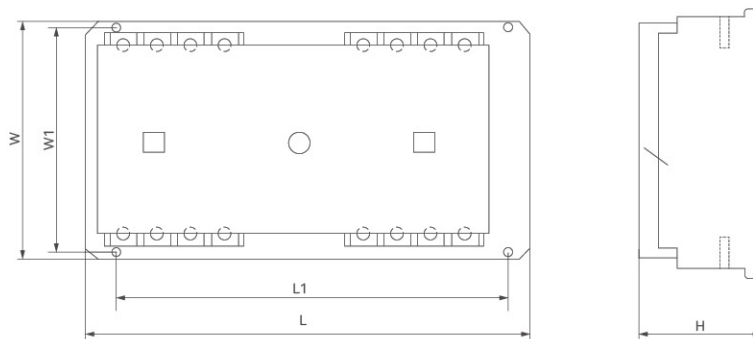
- ◆ The operating voltage of the switch controller is AC220V;
- ◆ The mechanical life of the switch (N-R-N cycle) is 5000 times;
- ◆ The minimum transfer time is 1.5~4S;
- ◆ The switch has the functions of loss of voltage, undervoltage, overvoltage, phase failure, delay, fire-fighting of the starting oil engine, automatic switching without automatic recovery, backup priority, and switching;
- ◆ The switch carries the operating handle at any time and is used as an emergency manual operation switch. (for use in case of power failure);
- ◆ There are three stable working states:
state I: normal power supply closed, backup power supply closed;
state II: normal power supply divided, backup power supply closed;
Status III: normal power points, backup power points.



Shape and installation dimensions



Note: Split controller
installation openings
Size: 108x89mm



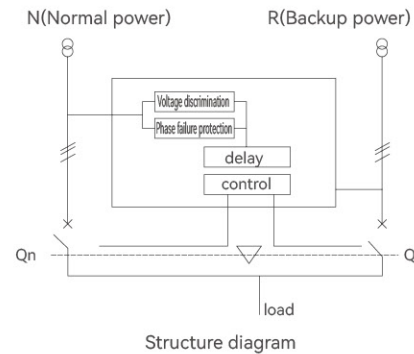
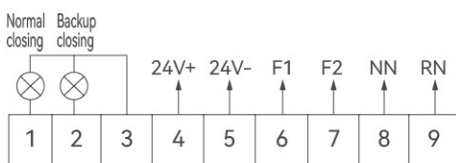
Model	size	L		L1		W		W1		H
		3P	4P	3P	4P	3P	4P	3P	4P	
HYCQ5-125		342	375	260	290	215	215	198	198	111
HYCQ5-250		385	420	298	335	228	228	208	208	132
HYCQ5-400		508	556	437	485	333	333	307	307	174
HYCQ5-630		618	676	543	600	348	348	324	324	191
HYCQ5-800		670	728	602	658	350	350	320	320	190
HYCQ5-1250		710	780	680	740	370	370	340	340	225

Note: Installation dimensions of split controller: 108mm×89mm.

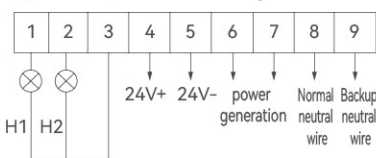
Main structure and working principle

- ◆ In the structure diagram, N is the normal power supply, and R is the backup power supply. Qn is the normal power control circuit breaker, Qr is the backup power control circuit breaker, and the two circuit breakers have double protection of mechanical interlocking and electrical interlocking. The controller consists of four parts: voltage identification, phase failure protection, time delay and controller. The incoming terminal of the backup power supply is commonly used for voltage identification and phase failure protection sampling. When the normal power supply is normal and the switch works in automatic gear, no matter whether Qr is in the "on" or "off" state, first complete the Qr split and Qn close procedure to ensure that the normal power supply is connected to the load. When the normal power supply returns to normal, the load Swap back to normal power.
- ◆ Switch-controlled circuit breakers can be composed of 3-pole or 4-pole molded case circuit breakers. The switch can be operated automatically and manually, and can realize automatic and forced load switching between two power sources. According to the user's requirements, the normal power supply indication and the backup power supply indication are connected from the external terminal and led to the control panel. For automatic switching and non-automatic reset specifications, the reset button can also be led out from the external terminal.
- ◆ This series of automatic switching switches is simple to plot, and there is no need to draw a secondary connection coil, which greatly facilitates engineering design. If the user needs to connect the power supply indication and the circuit breaker closing indication on the screen, it can be stated in the order contract. The external wiring diagram is shown in the figure (the indicator light can adopt AD11 AC220V specification).

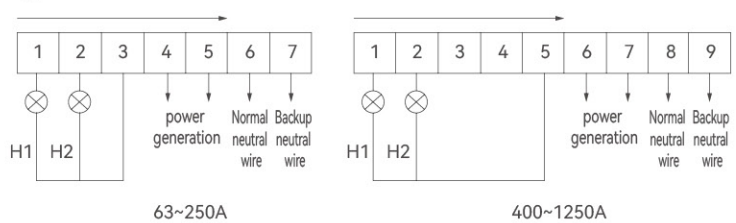
Type B



Type E



Type M



In the picture:

- (1) H1 and H2 are the external indications of normal closing and backup closing;
- (2) 4 and 5 are 24V fire protection and two ways opening;
- (3) 6 and 7 are grid --- generator start contacts;
- (4) 8 is the neutral line of the normal power supply (three poles), and 9 is the neutral line of the spare power supply (three poles).

In the picture:

- (1) H1 and H2 are the external indications of normal closing and backup closing;
- (2) 6 and 7 are grid --- generator start contacts;
- (3) 8 is the neutral line (three-pole) of the normal power supply, and 9 is the neutral line (three-pole) of the spare power supply.

Illustration (HYCQ5)

- ◆ This series of dual power transfer switches have "manual" state, switch between normal power supply and backup power supply and push-button, "automatic" state, automatic conversion between normal power supply and backup power supply, and have "automatic", "manual", "automatic" normal undervoltage, "normal overvoltage", "normal closing", "normal trip", "backup undervoltage", "backup overvoltage", "backup closing", "backup trip" text display.
- ◆ When the normal power supply and the backup power supply supply power at the same time, if the normal power supply voltage is higher than 120% of the rated voltage or lower than 70% of the rated voltage, it will automatically switch to the backup power supply, and display "normal overvoltage" or "backup undervoltage".
- ◆ When the normal power supply and the backup power supply supply power at the same time, if the backup power supply voltage is higher than 120% of the rated voltage or lower than 70% of the rated voltage, it will automatically switch to the normal power supply, and display "backup overvoltage" or "backup undervoltage".
- ◆ In the normal power supply, if the load is overloaded or short-circuited, the circuit breaker will trip and display "normal trip".
- ◆ In the backup power supply, if the load is overloaded or short-circuited, the circuit breaker will trip and display "backup trip".

Key operation instructions (HYCQ5)

- ◆ Press the automatic button for 1-3 seconds in manual mode to switch to automatic; press the manual button for 1-3 seconds in automatic mode to switch to manual mode.
- ◆ Press the "two ways opening" button for 1-3 seconds to convert the automatic transfer switch into two ways disconnection.
- ◆ In the manual state, press the "normal" key for 1-3 seconds to convert the automatic transfer switch to the usual state. It is displayed as "manual, normal closing"; press the "backup" button for 1-3 seconds to convert the automatic transfer switch to the backup state. Displayed as "manual, backup close".
- ◆ In the automatic state, when both the normal power supply and the backup power supply are normal, the normal power supply priority is displayed as "automatic normal closing", if the normal power supply fails, the automatic transfer switch will be automatically converted to the backup power supply and displayed as "automatic backup closing". When the normal power supply returns to normal, the automatic transfer switch will be automatically converted to the normal power supply and displayed as "automatic normal

closing"; press "normal" for 5 seconds to switch the normal priority; Press "backup" for 5 seconds to switch the backup priority; when using, press "normal" + "two way opening" to set the automatic switching and automatic recovery; Press "Backup" + "two ways opening" at the same time to set auto-casting without auto-recovery.

- ◆ Delay time: The delay time is adjusted by the potentiometer, between 0-30 seconds.
- ◆ Fire protection function: fire 24V signal, immediately two ways opening, and set the switch to manual, and prohibit all operations before 24V disappears.

Note: If both normal and backup are abnormal, it will automatically switch to two ways opening state in automatic state. If a certain channel returns to normal, it will automatically restore normal power supply.

Intelligent automatic controller control function annotation

- ◆ Self-switching and self-recovery is suitable for normal power supply and backup power supply. The intelligent automatic controller automatically converts the two power supplies (that is, normal power supply and backup power supply). In normal state, it is powered by normal power supply. When the normal power supply fails or is abnormal (any one When overvoltage, undervoltage, voltage loss or phase loss occurs in the group voltage, the set (adjustable) delay time will automatically switch to the backup power supply; when the normal power supply returns to normal, the set (adjustable) delay time) the delay time automatically returns to the normal power supply.
- ◆ Self-switching non-self-recovery is suitable for normal power supply and backup power supply. The automatic controller with self-switching non-self-recovery can perform automatic conversion with two power sources (that is, normal power supply and backup power supply). When any power supply is abnormal (voltage, undervoltage or phase loss occurs in any group of voltages). The time delay that has been set is automatically switched to

another normal power supply, but when the abnormal power supply returns to normal, it cannot be automatically restored.

- ◆ When the power grid and the oil generator are used in the power generation system, the automatic controller automatically converts the two power sources of the power grid and the power generation. When the grid voltage is lower than 85% of the rated voltage, a power generation command is issued (with a set of normally open and normally closed contacts). output), when the generation voltage reaches 85% of the rated voltage, first disconnect the load circuit from the grid, and then turn on the generation power after a delay. When the power grid returns to normal (over 85% of the rated voltage), the intelligent controller logically determines that the load circuit is automatically disconnected from the power generation source and switched to the power grid.

Working status

The current power supply of the load		The current preset state of the system				current power supply	System processing when power supply fails				Commonly used and normal processing when the standby power supply is normal	
		manual		automatic			Failure of another group of power supply is normal	do not switch	switch to			
normal	backup	normal	backup	normal	backup					normal	backup	dual use
●		●				normal	●				●	
						unusual	●					
●				●		normal			●		●	normal
						unusual				●		
●					●	normal			●		●	
						unusual				●		
	●		●			normal	●				●	
						unusual	●					
	●			●		normal		●			●	normal
						unusual				●		
	●				●	normal		●			●	
						unusual				●		

Fault maintenance

- ◆ There is no response after the power is turned on, and the electric operating mechanism does not move after pressing the command button. Please check the power connection of the circuit breaker and the connection of the special cable.
- ◆ After the power is turned on, although the voltage of each phase is normal, but the panel shows that the voltage is undervoltage, please check whether the power supply of the circuit breaker is connected well and whether there is a phase loss phenomenon.

Notices

- ◆ The intelligent system should be regularly checked and maintained according to the requirements of the selected circuit breaker and electric operating mechanism. The intelligent controller is maintenance-free under normal use conditions.
- ◆ Long-term use of this intelligent system should pay attention to moisture-proof and dust-proof, and the above-mentioned contents should be debugged before use before it can be put into operation.

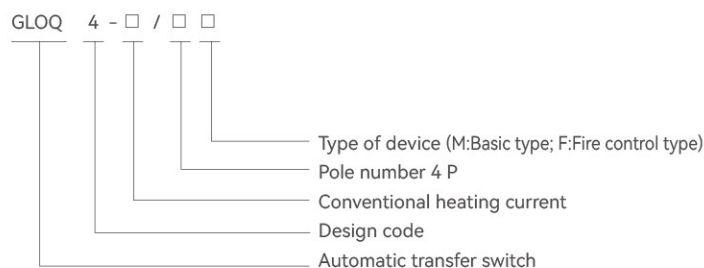


GLOQ4 Series Automatic Transfer Switches

Features

- ◆ GLOQ4-125~800A automatic transfer switch is suitable for AC 50Hz, AC rated voltage to below 400V, the rated current of 125~800A is suitable for the mutual conversion of the two-way power supply of the emergency power supply system, and the power supply to the load is interrupted during the switching of the power supply.
- ◆ The switch works reliably under the following conditions:
 - ◆ The height above sea level does not exceed 2000 meters;
 - ◆ The ambient temperature is not higher than +40°C, not lower than -5°C;
 - ◆ The relative humidity of the air is not more than 95%;
 - ◆ There is no explosion hazard medium, and the medium does not have enough gas and dust to corrode metal and destroy insulation;
 - ◆ Places without significant shaking and shock vibration;
 - ◆ Environment free from rain and snow;
 - ◆ Note: If the expected ambient temperature is higher than +45°C or -5°C ~ -45°C, please inform the manufacturer.

Model description



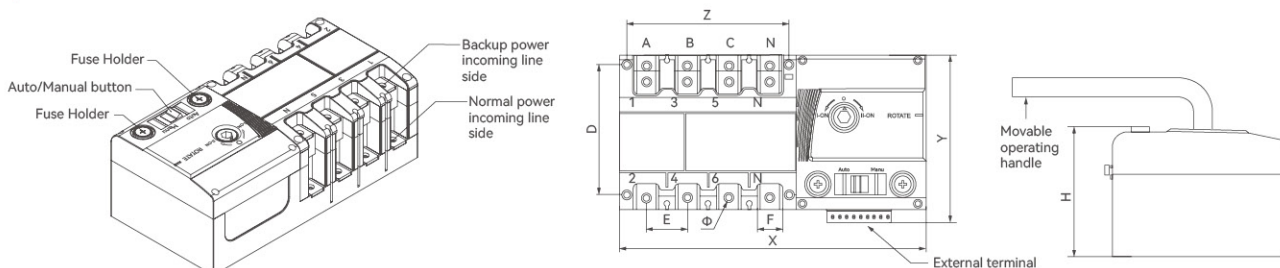
Structure and Features

- ◆ Structure:
The switch is made of DMC unsaturated polyester housing, permanent magnet synchronous motor. Transmission mechanism and spring energy storage acceleration mechanism.
- ◆ Features:
The switch has three operating functions:
1. Manual handle operation;
2. Automatic control operation;
The switch has three status positions I 0 II

The main technical parameters

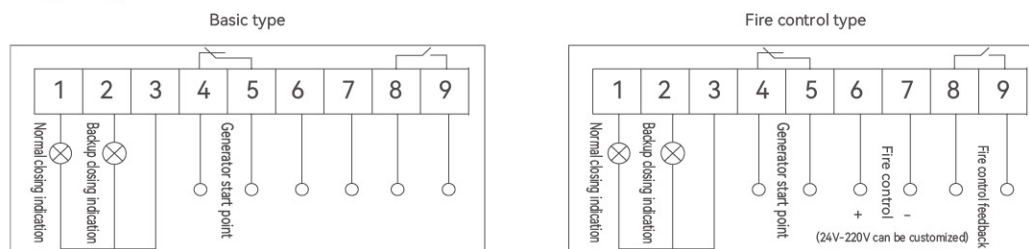
Model	GLOQ4-125	GLOQ4-250	GLO Q4-800
Rated current(A)	16,20,25,32,40,63,80,100,125	125,160,200,250	315,400,500,630,700,800
Rated insulation withstand voltage (V)	800	800	800
Rated impulse withstand voltage (kV)	8	8	8
Mechanical life	10000	10000	5000
Use category	AC-33iB	AC-33iB	AC-33iB

Shape and installation dimensions



Specification	X	Y	Z	D	E	F	H	Φ
GLOQ4-125	224	122	118.5	95.5	30	18	83	6
GLOQ4-250	300	153	287	128	36	23	122	8
GLOQ4-800	432	257	410	218	58	44	195	12

Secondary wiring diagram



1. Manual and automatic selection switch: the control switch internal control circuit power supply.
When automatic is selected, the switch realizes automatic switching. When manual is selected, the switch can only be operated by the handle.
2. Operation handle: When using the operation handle to operate the switch, the button must select the manual state.
3. Position indication: Table surface switch working status position (IN, O, IR)
4. Main body of the switch: the front part is the II way, which is connected to the "backup power supply"; the rear part is the I way, which is connected to the "normal power supply".

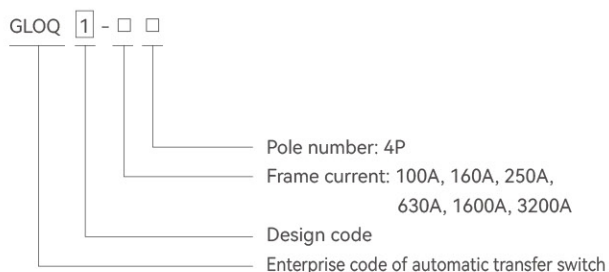


GLOQ1 Series Automatic Transfer Switches

Features

- ◆ Installation performance is good.
- ◆ Using double-row composite contacts, horizontal pull mechanism, permanent magnet synchronous motor pre-storage and microelectronic control technology, it basically achieves zero arcing (without arc extinguishing cover).
- ◆ Adopt reliable mechanical interlock and electrical interlock.
- ◆ Using zero-crossing technology, it can be forced to zero in an emergency (cut off two power supplies at the same time), with obvious on-off indication, padlock and other functions, and reliably realize the isolation between the power supply and the load.
- ◆ High reliability, with a service life of more than 8,000 times.
- ◆ Integrated design, switch conversion is accurate, flexible and smooth.
- ◆ Good electromagnetic compatibility, strong anti-interference ability, no external interference.
- ◆ High degree of automation.
- ◆ The switch has multiple input/output interfaces, which is convenient for remote PLC control and system automation.
- ◆ Switch work without any external control components.
- ◆ Beautiful appearance, small size and light weight, the logic control board manages the motor directly installed in the switch with different logic, and the operation of the gearbox ensures the switch position.

Model description



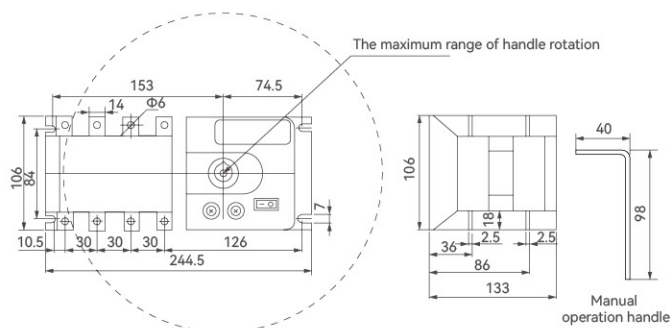
Conditions of Use

- ◆ Ambient air temperature: $-25^{\circ}\text{C} \sim +55^{\circ}\text{C}$.
- ◆ The altitude of the installation site shall not exceed 2000m.
- ◆ The pollution level is 3.
- ◆ The installation category is Class III.
- ◆ The main circuit usage categories are AC31B, AC33B, AC35B, AC33iB, and AC-33iB.
- ◆ Installation conditions: The switch body can be installed vertically or horizontally.

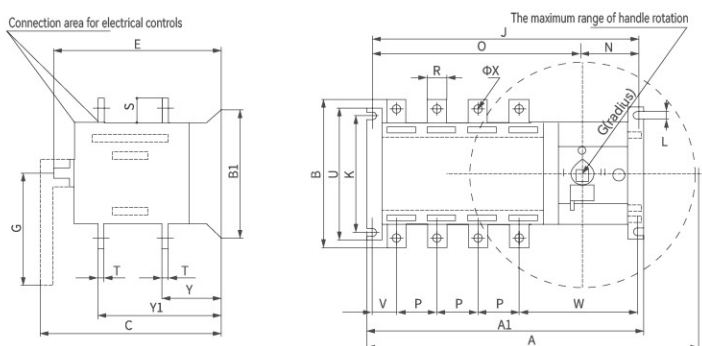
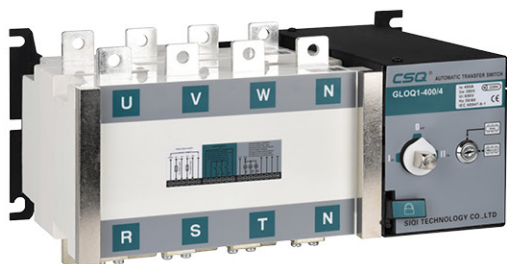
The main technical parameters

Conventional heating current Ith		20A	40A	63A	80A	100A	125A	160A	250A	400A	630A	800A	1000A	1250A	1600A	2000A	2500A	3200A
Rated insulation voltage Ui		800V									800V							
Rated impulse withstand voltage Uimp		8kV									12kV							
Rated working voltage Ue		AC400V																
Rated working current Ie	AC-66A	20	40	63	80	100	125	160	250	400	630	800	1000	1250	1600	2000	2500	3200
Rated short-time withstand current Ie		7kV					5kA		10kA	20kA		26kA		50kV		55kA		
Conversion time		≤ 5S																
Control supply voltage		AC220V																
Weight (kg)		7.0/3.5	7.2/3.5	7.2/3.5	7.2/3.5	7.5	7.5	8.8	9	16.5	17	32	36	40	49	95	98	125

GLOQ1-100 Outline Installation dimensions

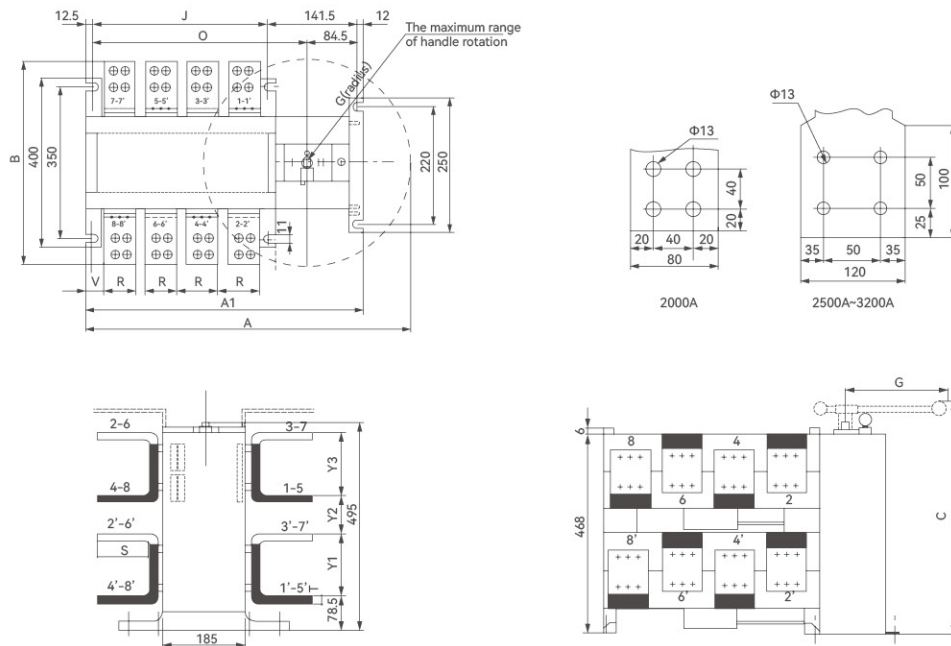


GLOQ1 -125~1600 Outline Installation dimensions



Specification	A	A1	B	B1	C	E	G	J	K	L	N	O	P	R	S	T	U	V	W	ΦX	Y	Y1	K1
160A/4	358	320	150	134	190	157	144	305	78/108	7	100	211	36	20	25	3.5	134	33.5	160	9	58	122	80/50
250A/4	422	381	186	134	210	180	144	365	78/108	7	98	270	50	25	30	3.5	134	47	164	11	61	144	80/50
400A/4	520	445	240	208	333	266	192	422	176	11	113.5	315	65	32	40	5	208	31	193	11	83	193	
630A/4	520	445	260	208	333	266	192	422	176	11	113.5	315	65	40	50	6	208	31	193	13	84	194	
800A/4	1007	633	340	250	370	321	470	609	220	11	85	524	120	80	70	8	220	60.5	188.5	13	110	258	
1000A/4	1007	633	340	250	370	321	470	609	220	11	85	524	120	80	70	8	220	60.5	188.5	13	110	258	
1250A/4	1007	633	340	250	370	321	470	609	200	11	85	524	120	80	70	8	220	60.5	188.5	13	110	258	
1600A/4	1007	633	340	250	370	321	470	609	200	11	85	524	120	80	80	12	220	60.5	188.5	13	114	262	

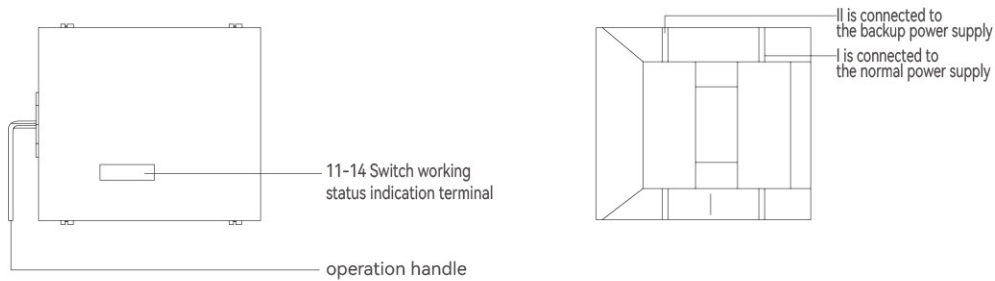
GLOQ1-2000A~3200A Outline Installation dimensions



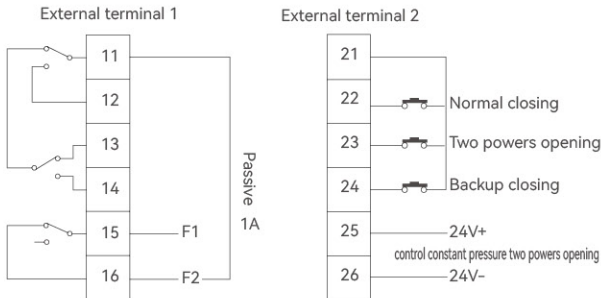
	Overall size							switch installation					Terminals										
Specification	A	A1	B	C	E	G	H	J	K	L	N	O	P	R	S	T	U	V	W	X	Y1	Y2	Y3
2000A	1007	633	455	556		470		467				524		80	80	15		33			147	84	147
2500A	1007	633	455	556		470		467				524		120	112	15		13			152	79	152
3200A	1007	633	505	556		470		467				524		120	112	15		13			152	79	152

GLOQ1-100 wiring diagram

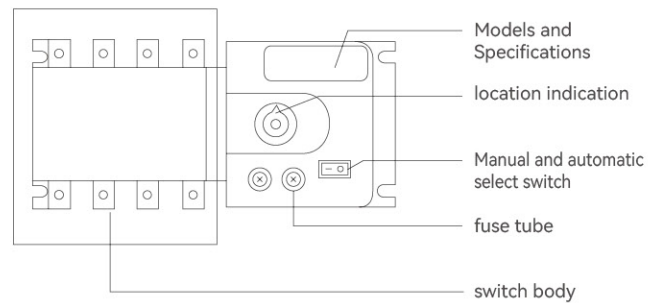
◆ Typical Wiring



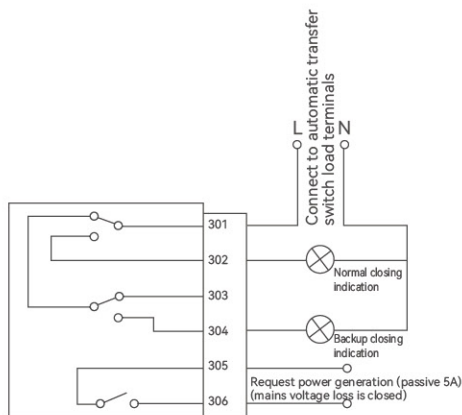
◆ Secondary terminal wiring diagram



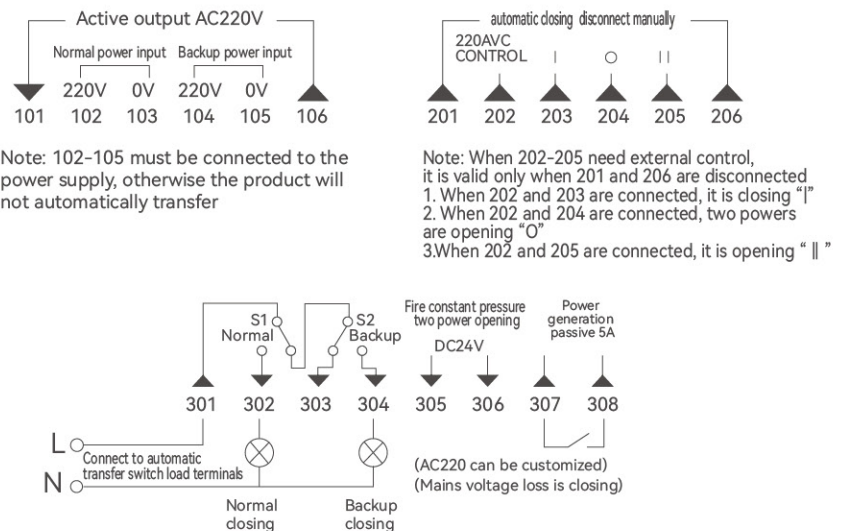
◆ Switch Structure Description



GLOQ1-125~3200A basic secondary wiring diagram



GLOQ1-125~3200A fire control type secondary wiring diagram

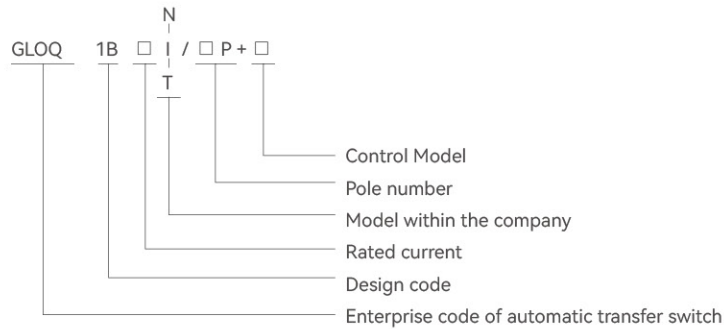


GLOQ1B Series Automatic Transfer Switches

Main structure and working principle

- ◆ This product is a new generation of PC class switches that use coil instantaneous operation. Compared with the traditional motor-driven switch, it has a simple structure, fast switching speed, and the time is less than 80ms, and the main contact system is single-pole double-throw (V type) structure will not cause two power supplies to be turned on at the same time even under abnormal conditions.

Model description



Scope of application

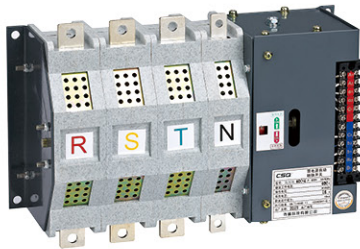
- ◆ GLOQ1B automatic transfer switch is suitable for rated insulation voltage of 690V, rated frequency of 50Hz, rated working voltage of 400V and below, and rated current from 25A to 3200A.
- ◆ GLOQ1B is used for emergency power supply system conversion between dual power supplies to ensure continuous and reliable operation of important loads (such as firefighting loads). It is suitable for high-rise buildings, hospitals, shopping malls, banks, fire protection, chemical industry, metallurgy and other places that require uninterrupted normal power supply.

Normal Working Conditions

- ◆ Ambient air temperature: the upper limit is +55°C ; the lower limit is -25°C ;
- ◆ The altitude of the installation site shall not exceed 2000m;
- ◆ The pollution level is 3;
- ◆ The installation class is III;
- ◆ The use category of the main circuit is AC33B (6le), AC31B;
- ◆ Installation conditions: The switch body can be installed vertically or horizontally, and the control is panel-mounted.

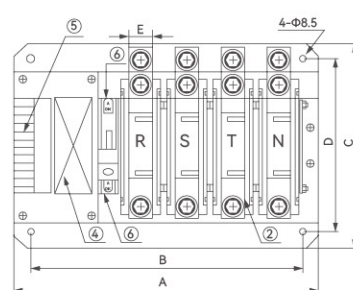
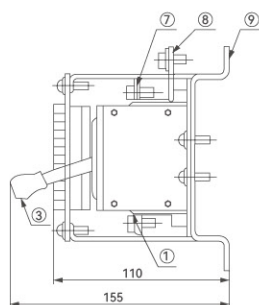
Manual operation method and precautions

- ◆ The electric operation of the GLOQ1B type transfer switch can be guaranteed to be normal at 85%U_e~110%U_e, but for manual operation due to the difference in strength and speed of personnel, it cannot be guaranteed. When using manual operation switch for on-load conversion. Consumption of silver contacts, welding, etc. may occur. Therefore, it can be implemented in the following situations during manual operation: (pay attention to the closing position indication)
- ◆ No operating power in controller
- ◆ No load in busbar output



External Dimensions and Installation Dimensions

◆ GLOQ1B-125N Shape and installation dimensions

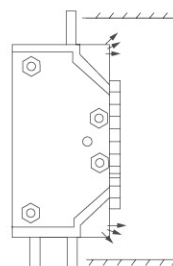
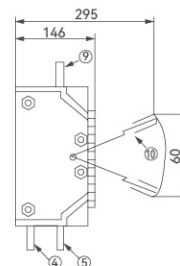
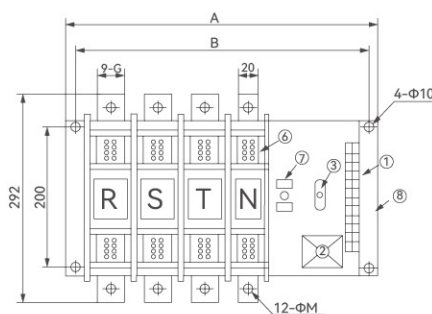
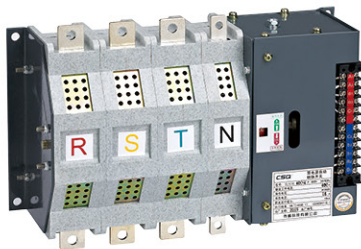


- 1.load bus bar 2.power module 3.Debug handle 4.nameplate 5.Terminals
6.Power Conversion Mechanical Indication 7.main power bus bar 8.Backup power bus bar 9.base

Model	GLOQ1B-125N		
pole	2P	3P	4P
A	193	229	265
B	175	195	235
C	186	186	186
D	165	165	165
E	12	12	12

Note: If the user needs, the switch handle can be removed, and the total height t is only 110mm.

◆ GLOQ1B-160T~400T Shape and installation dimensions



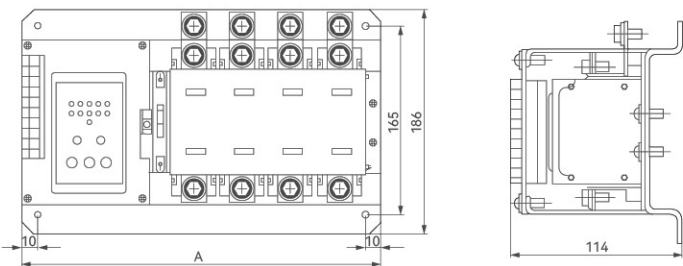
- 1.Terminals 2.nameplate 3.Debug handle socket 4.load bus bar 5.Backup power bus bar
6.Arc chute 7.Main and standby power supply closing indication 8.arc cover 9.main power bus bar 10.Debug handle (removable)

* arcing distance
220V 50mm
380V 80mm

Model		GLOQ1B-160T	GLOQ1B-200T	GLOQ1B-250T	GLOQ1B-315T	GLOQ1B-400T
A	3P	322			352	
	4P	372			402	
B	3P	302			332	
	4P	352			382	
G		20			30	
M		9			11	

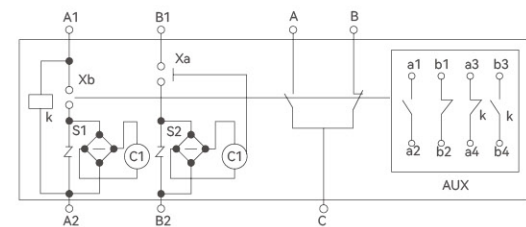
GLOQ1B-125I Shape and installation dimensions

Model		GLOQ1B-125I
A	2P	239
	3P	275
	4P	311



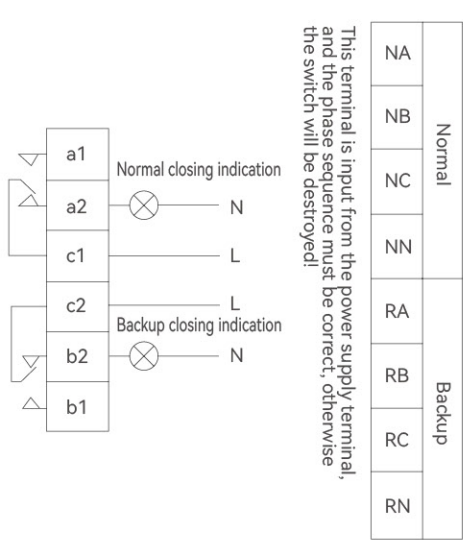
Internal wiring diagram

- ◆ When the A power supply is powered, the auxiliary contacts a1 and a2 are closed, and b1 and b2 are disconnected;
- ◆ When the B power supply is powered, the auxiliary contacts a1 and a2 are disconnected, and b1 and b2 are closed;
- ◆ a3 and a4 are normally closed contacts, and b3 and b4 are normally open contacts. When the user adopts the generator power supply mode, the start and stop of the generator can be controlled according to the generator start mode, and the maximum capacity is 220V, 5A.
- ◆ Users can also control other devices as needed.



A=A-power supply B=B-power supply C=load AUX=Auxiliary contact Xa,Xb=control switch

Secondary wiring diagram



The main function

- ◆ Indicates the current access power status
- ◆ Indicates the current output working power state
- ◆ Indicate fault status (undervoltage, overvoltage, phase loss)
- ◆ Indicates automatic state, manual state (with power-down memory)
- ◆ Can automatically detect any power failure state (undervoltage, overvoltage, phase loss)
- ◆ Manual/automatic conversion possible
- ◆ Power conversion, can provide 0.5~60 seconds adjustable delay
- ◆ The A power output or B power output can be switched arbitrarily in the manual state.
- ◆ The main power supply can be preferentially selected from the A power supply or the B power supply
- ◆ The control mode can be set arbitrarily:
Auto-transfer and auto-recovery mode
Self-transfer and non-self-recovery mode
Generator power mode

Mode setting (in automatic state)

- ◆ The initial default state is "auto-transfer and auto-recovery" mode
- ◆ Press the "A-power manual" and "B-power manual" buttons at the same time for 5 seconds to set the mode from "automatic switching and automatic recovery" to "automatic switching without automatic recovery" mode, and the two power failure indicators flash at the same time once.
- ◆ Continue to press the "A-power manual" and "B-power manual" buttons at the same time for 5 seconds to set the mode from "automatic switching without automatic recovery" to "automatic switching and automatic recovery" mode, and the two power failure indicators flash at the same time Light up once.
- ◆ The above 2-3 operations are in cycle mode, and the indicator lights respectively flash in cycles.
- ◆ The initial default state of the main power supply is A-power supply. If you want to set the B power supply as the main power supply, you can press the "B-power manual" button for 5 seconds in the automatic mode, the B power failure indicator flashes once, and the system sets the B- The power supply is the main power supply, and then press the "A-power manual" button for 5 seconds, the A power supply fault indicator flashes once, and the system resets the A-power supply as the main power supply.

Two control modes of the controller

- ◆ The controller adopts high-grade STC single-chip microcomputer to automatically switch between two power sources (A power supply B power supply).
- ◆ Self-switching and self-repeat mode: When the A power supply is abnormal (power failure or undervoltage, overvoltage, phase loss), the B power supply will be automatically switched after the delay set by the system, and an alarm signal will be output at the same time (lighting indicator + buzzer reminder). After the A power supply returns to normal, it will automatically switch to the A power supply after the delay set by the system.
- ◆ Self-switching non-self-reversing mode: If the A power supply indicates abnormality (power failure or undervoltage, overvoltage, phase loss), it will automatically switch to the B power supply after the delay set by the system, and output an alarm signal (illuminated indicator + buzzer reminder). When the A power supply returns to normal, it will not automatically switch to the A power supply and continue to supply power with the B power supply until the B power supply is abnormal (power failure or voltage, overvoltage, phase loss), and then the system set The delay automatically switches to the A power supply (when the A and B power supplies are both mains).

Controller function (self-switching and self-recovery mode) A power supply is a common power supply

A power supply	B power supply	control function
normal	normal	A power supply supplies power
normal	abnormal	A power supply supplies power, and B power supply sends out an alarm signal (illuminated indication)
abnormal	normal	After a delay of T seconds, put into B power supply, and send out an alarm signal (illuminated indicator)
Back to normal	normal	After a delay of T seconds, it switches to the A power supply, and the recovery is abnormal.
manual/automatic		The controller is in the automatic state by default, and the automatic state indicator light is on; when the automatic/manual button is pressed, the automatic indicator is off and the manual state is used. At this time, the two-way output is completely controlled by the A-power manual button and the B-power manual button. (The last state of the upper potential is set, that is, with power-down memory)
lack of phase		When any phase of the power supply lacks power (or serious low voltage), an alarm signal (power generation indication) is issued
Overvoltage/ Undervoltage		Overvoltage: $\geq 220V AC+15\%$
		Undervoltage: $\leq 220V AC-15\%$
		Greater than the overvoltage value/less than the undervoltage value, an alarm signal (luminous indication) is sent, and the threshold value varies according to the power quality of the region

Controller function (self-switching and not self-resetting mode) A power supply is a normal power supply

A power supply	B power supply	control function
normal	normal	A power supply supplies power
normal	abnormal	A power supply supplies power, and B power supply sends out an alarm signal (illuminated indication)
abnormal	normal	After a delay of T seconds, put into B power supply, and send out an alarm signal (illuminated indicator)
Back to normal	normal	B power supply is still powered, and will switch to A power supply when there is an abnormality in B power supply or human intervention.
manual/automatic		The controller is in the automatic state by default, and the automatic state indicator light is on; when the automatic/manual button is pressed, the automatic indicator is off and the manual state is used. At this time, the two-way output is completely controlled by the A-power manual button and the B-power manual button. (The last state of the upper potential is set, that is, with power-down memory)
lack of phase		When any phase of the power supply lacks power (or serious low voltage), an alarm signal (power generation indication) is issued
Overvoltage/ Undervoltage		Overvoltage: $\geq 220V AC+15\%$
		Undervoltage: $\leq 220V AC-15\%$ (Can be set according to customer needs)
		Greater than the overvoltage value/less than the undervoltage value, an alarm signal (luminous indication) is sent, and the threshold value varies according to the power quality of the region

Operation brief

- ◆ The intelligent controller can realize automatic and manual operation. The operator can set the operation mode through the "Auto/Manual" button. When the operation mode is the automatic mode, the automatic indicator light is on, otherwise, the automatic indicator light is off.
- ◆ Automatic mode: The intelligent controller automatically realizes the conversion between the two power sources according to the set state to ensure the uninterrupted normal operation of the load.
- ◆ Manual mode (this function is not available when the generator is powered): when the two power sources are normal, press the "B-power manual" button to forcibly cut off the A-power supply and switch to B-power, press the "A-power manual" button to cut off B-power is converted to A power.
- ◆ When the A-power supply is normal and the B-power supply is abnormal, the system alarms, and the manual conversion will not respond.
- ◆ When the A-power supply is powered and the B power supply is normal, the A-power supply is abnormal, the system alarms, press the "B-power manual" button, the system will switch to the B-power supply.
- ◆ When the B-power supply is normal and the A-power supply is abnormal, the system alarms, press the "A-power supply manual" button, the manual conversion will have no response.
- ◆ When the B-power supply is powered and the A-power supply is normal, the B-power supply is abnormal, the system will alarm, press the "A-power supply manual" button, the system will switch to the A-power supply.

Note: In the case of automatic transfer switch with a point, the operator is not allowed to use the handle to operate.

Electrical technical parameters

Model		GLOQ1B-125I
Rated current(A)		20-125A
Rated operating voltage (V)		220V AC50/60Hz
Operating current (A)		3.5
Rated limited short-circuit current (kA)		35
Service life (times)	mechanical	8000
	electric	3000
Pole Number		(2/3)4
Weight (kg)		6
Operation cycle (seconds/time)		15

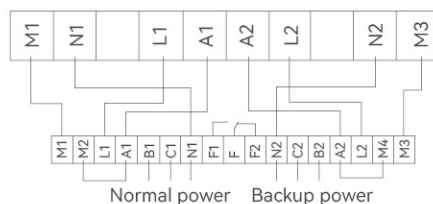
Wiring capability

Rated current	Wiring capability (mm²)	busbar contact area (mm²)	busbar contact area	busbar contact area (Nm)
20A	2.5	140	M5	4.5
32A	6			
40A	8			
63A	16	400	M8	8.8-10.82
80A				
100A	35			
125A				

Split intelligent controller

- ◆ Brief description of operation of DCU-B intelligent controller
- ◆ Automatic and manual conversion:
There is an automatic and manual switching button on the panel. This button is self-locking. Press it to manual mode (MANUAL), and the manual indicator light is on; pop up the automatic mode (AUTO). At the same time, the automatic indicator light is on.
- ◆ Actions in automatic mode:
In the automatic mode, the controller automatically completes the conversion between the two power sources according to the power supply status. The conversion time is set by the panel, and the range is 0-30s.
 - ① When both power sources are normal, switch to the main power source.
 - ② When the main power supply is abnormal and the backup power supply is normal, cut off the main power supply and switch to the backup power supply; when the main power supply is restored, cut off the backup power supply and then switch to the main power supply.
 Put the manual automatic switch button in the manual position " " manual indicator light is on. When the main power is normal, press the main power switch button (A-POWER MANUAL) to cut off the backup power and switch to the main power. When the backup power is normal, press the backup power switch button (B-POWER MANUAL) to cut off the main power and switch to the backup power.

- ◆ The schematic diagram of the wiring terminal is shown in the figure and the terminal function



- a. A1, B1, C1, N1 are connected to the main power three phase four wire, if it is three phase three wire, then N1 is grounded;
- b. A2, B2, C2, N2 are connected to the three phase four wire backup power supply, if it is three phase three wire, then N2 is grounded;
- c. L1 is connected to phase A of the main power supply through the auxiliary contact inside the switch, and the main power supply closing indication;
- d. L2 is connected to the U phase of the backup power supply through the auxiliary contact inside the switch, which is the closing indication of the backup power supply;
- e. M1, M2, M3, M4 are switch output terminals;