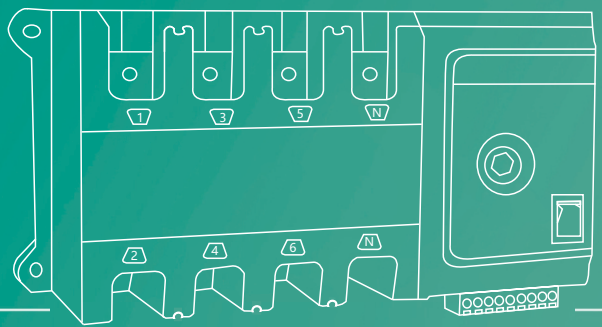
Technology For Life

CSQ®

Automatic Transfer Switch Catalog



SIQI TECHNOLOGY CO.,LTD.

INTRODUCTION

Siqi Technology Co.,Ltd (CSQ), a global leader in automatic transfer switch, miniature circuit breaker, molded case circuit breaker and switch disconnector, load break switch, power meter, contactor, etc...

Established in 2001, CSQ is a high-tech enterprise specializing in research and development, production, sales and services of automatic transfer switch, miniature circuit breaker, molded case circuit breaker and switch disconnector, load break switch, power meter, contactor, which is located in Yueqing city, the global capital of low-voltage electrical appliances.

HYCQ5-63 Automatic Transfer Switches

Featurse

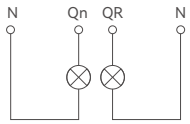
- HYCQ5-63 series of automatic transfer switch is composed of small circuit breaker stand - alone operating mechanism , control circuit , etc . All components are installed on the same base plate . Te control power supply voltage of the automatic transfer switch is AC230V, and the mechanical life is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

HYCQ 5 □ - □ / □

- Pole number
- Circuit breaker frame class
- Function code: M, G, H
- Design code
- Enterprise automatic transfer switch code



HYCQ5-63G

Normal Working Conditions

- Ambient air temperature range: -5 ℃ to +40 ℃ ;
- Altitude: the altitude of the installation site shall not exceed 2000m;
- Atmospheric conditions: When the maximum temperature is +40° C, the relative humidity of the air does not exceed 50%, and a higher relative humidity is allowed at lower temperatures.Temperature, for example, 90% at 20° C, special measures should be taken for condensation caused by temperature changes;
- Pollution level: 3;
- Electrical level: CB level.

HYCQ5-63H

Structure and performance

- Structure

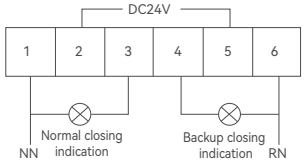
HYCQ5-63 series of automatic transfer switch is composed of small circuit breaker stand - alone operating mechanism , control circuit , etc . All components are installed on the same floor . The control power supply voltage of the automatic transfer switch is AC230V, and the mechanical life is 5000 times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

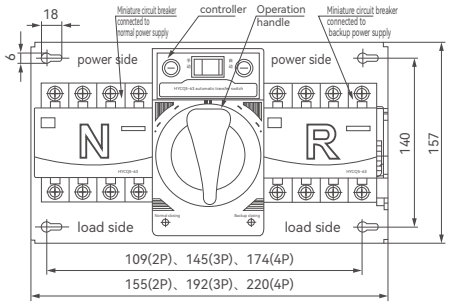
- Performance

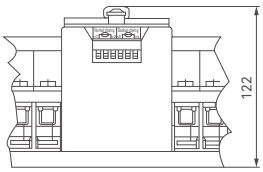
HYCQ5-63 automatic controller (only capable of self - switching and self - recovery) simultaneously detects the phase voltage (automatic control power supply) of two power supplies (referred to as common power supply and backup power supply), when the common power supply is abnormal , that is , a small 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

Fire control type wiring diagram







HYCQ5-63G

HYCQ5 Series Automatic Transfer Switches

Model description

HYCQ 5 □ - □ / □

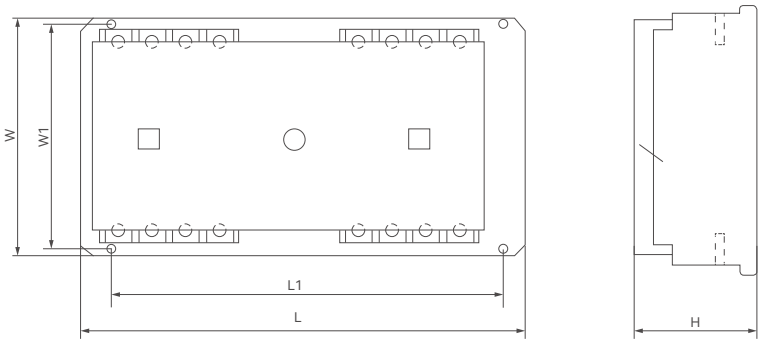
- Pole number
- Frame class rated current
- Economical M, Intelligent E
- Design code
- Enterprise code of automatic transfer switch

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 controler instalation openings
Size: 108x89mm



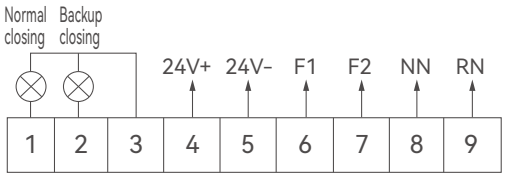
Model \ size	L		L1		W		W1		H
	3P	4P	3P	4P	3P	4P	3P	4P	
HYCQ5-125	342	375	260	290	215	215	198	198	111
HYCQ5-250	385	420	298	335	228	228	208	208	132
HYCQ5-400	508	556	437	485	333	333	307	307	174
HYCQ5-630	618	676	543	600	348	348	324	324	191
HYCQ5-800	670	728	602	658	350	350	320	320	190
HYCQ5-1250	710	780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

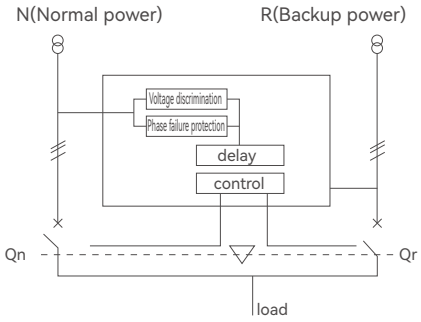
Note: Installation dimensions: 108mm×89mm。

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).

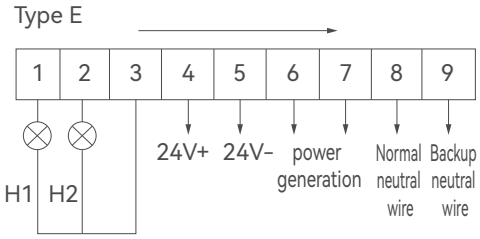
Type B



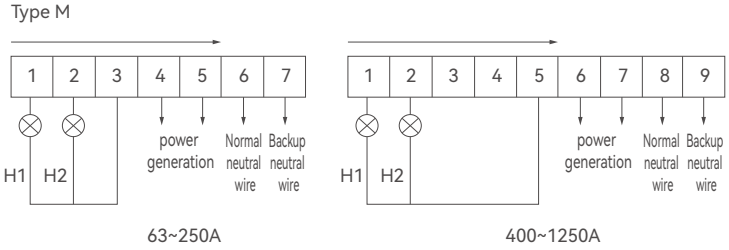


Structure diagram

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 controler 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				Treatment of the system when the reserve power supplies power normally,while the normal power is regular too.	
		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	do not switch	switch to
●		●				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.

HYCQ6 Automatic Transfer Switches

Featurse

- 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

HYC Q 6 - □ - □ / □

- Pole number
- Rated working current
- Circuit breaker frame class
- Design code
- Transfer switch
- Enterprise code

Product Features

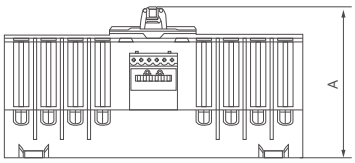
- The operating voltage of the switch controller is AC220V;
- The mechanical life of the switch (N-R-N material cycle) is 5000 times;
- The switch is equipped with an operating handle, which is used as an emergency manual operation switch; (used in the case of power failure).
- There are three stable 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.

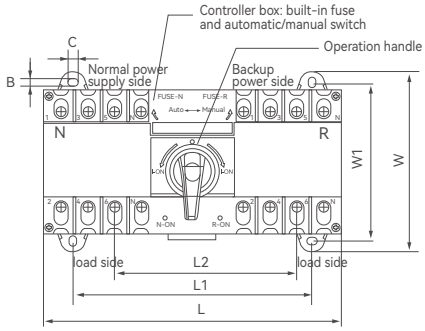
The main technical parameters

Model	HYCQ6-63	HYCQ6-125	HYCQ6-250
Rated current Ie(A)	6,10,16,20,25,32,40,50,63	100,125	225，250
Electrical level	Class CB		
Use category	AC~33iB		
Trip current	5~10In(Type C)， 10~15In(Type D)		
Rated working voltage Ue	220V(2P) 、400V(3P、4P)		
Rated frequency	50Hz		
Rated short-circuit making capacity Icm (peak value)	7.65kA	17kA	25kA
Rated short-circuit breaking capacity Icn (effective value)	5kA	10kA	12kA

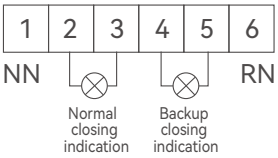
Shape and installation dimensions

- HYCQ6-63 Shape and installation dimensions





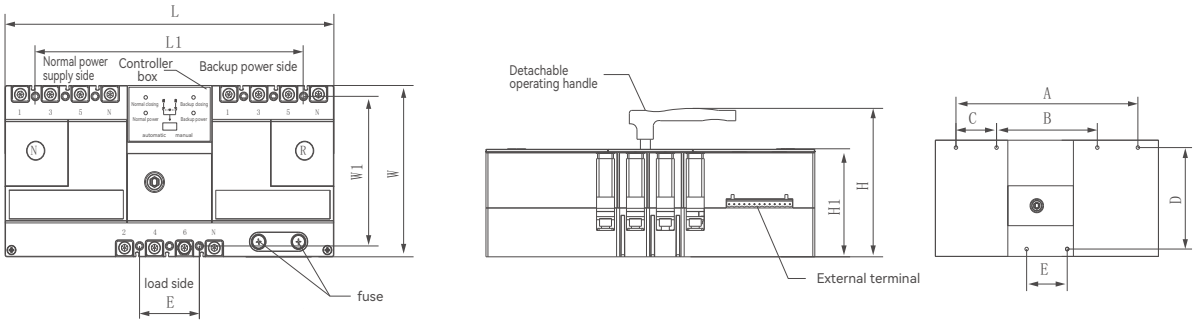
Wiring diagram



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

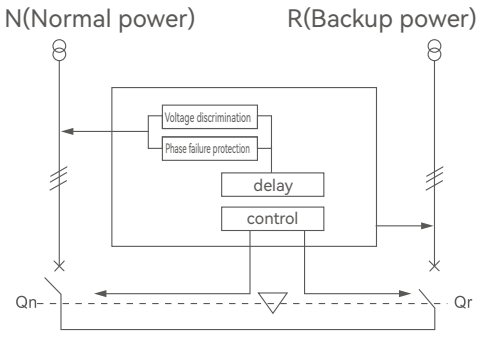
- HYCQ6-125~250 Shape and installation dimensions



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

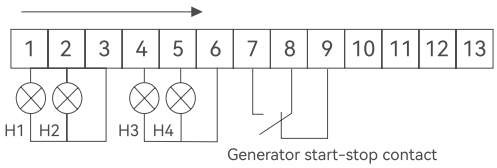
- N is the normal power supply, and R is the backup power supply. Qn is the normal power control circuit breaker, and Qr is the backup power control circuit breaker. The two circuit breakers have double protection by mechanical interlocking. The controller consists of four parts: voltage identification, 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.



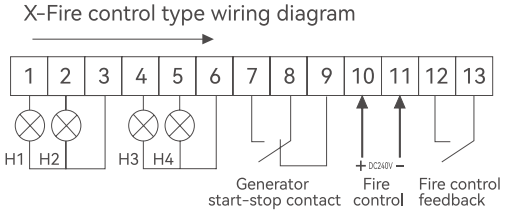
Terminal wiring diagram

- 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).

M-Basic Wiring Diagram



X-Fire control type wiring diagram



① H1 is a normal power supply external indication

② H2 is a normal closing external indication

HYCQ7 Automatic Transfer Switches

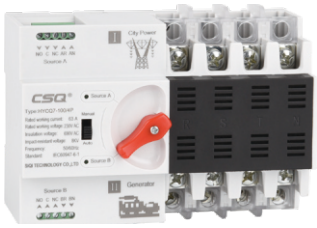
Features

- 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 Gearspecified by IEC60947-6-1and IEC60947-3:functional equipment and transfer switch equipment .

Model description

HYC Q7 100 / □ P

- Pole:2-Two poles, 4-Four poles
- Frame current
- Product code
- Enterprise code



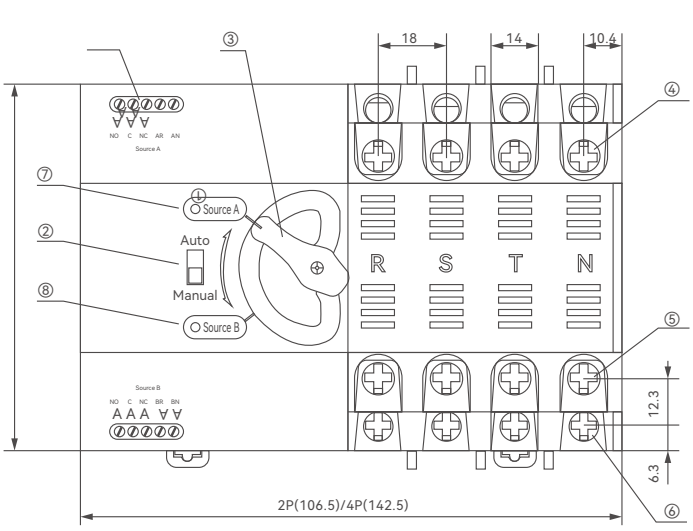
Normal working conditions

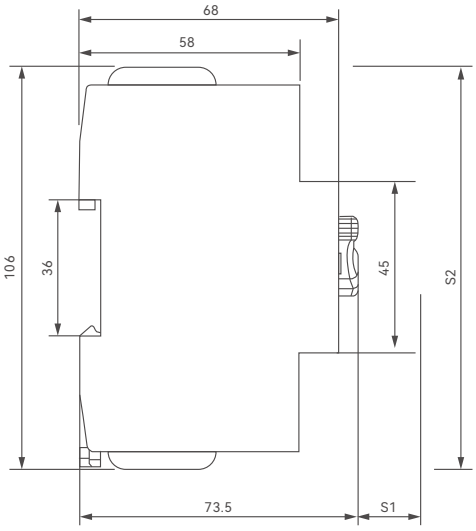
- Ambient temperature : the upper limit does not exceed +40℃ . The average value of 24h does not exceed +35℃ , and the lower limit is not lower than -5℃ .
- The altitude is higher than the installation site and the altitude does not exceed 2000m
- When the highest atmospheric temperature is +40℃ , the 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℃, 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 Sis 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 transter time	<50ms	
Operating transfer time	<50ms	
Return transfer time	<50ms	
Off - time	<50ms	
Temperature range	-5℃ ~+40℃ average temperature not more than 35℃ in 24 hours	

Shape and installation dimensions

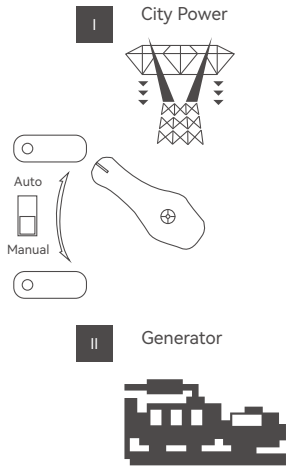




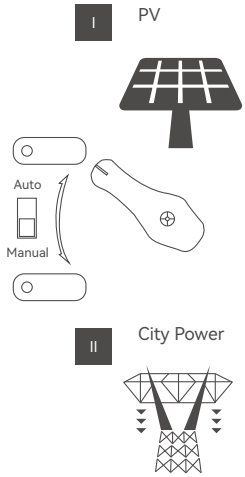
Safe distance: S1≥30mm, S2≥206

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

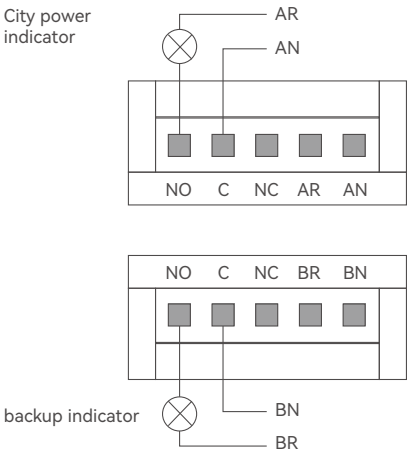
Panel Description



Normal type :
Source A : City power
Source B : Backup Power



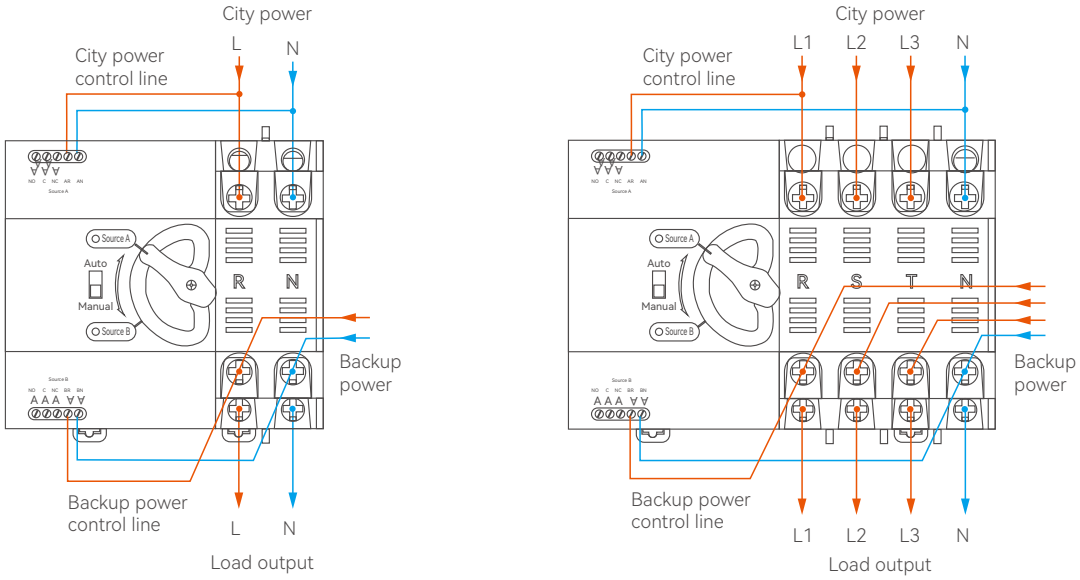
Solar type :
Source A : PV (AC power by inverter)
Source B : Must be connected to the city power.
Note : For solar type , the backup power must be connected to the city power.



Rated control voltage Us :AC220~230V: If the product is using under the condition of voltage less than 190V, it will burn .
Rated control voltage Us :AC110VIf the product is using under the condition of voltage less than 95V, it will burn .

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 of 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 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 of 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 .Insu翻 cient , the coll 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

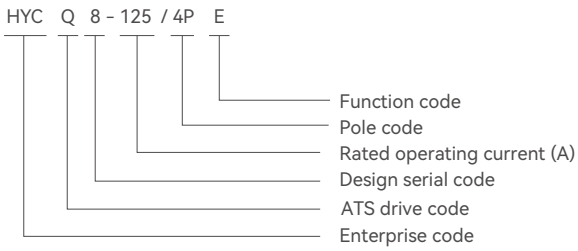
The product model , rated current , working voltage and quantity shall be indicated when ordering
Example :gloq7-10063AAC220v200 sets

HYCQ8 Intelligent Type Automatic Transfer Switches

Features

- HYCQ8 series intelligent type automatic transfer switch is the most advanced third-generation product with PC class and AC-33B category. It is a frequently operated electrical automatic transfer switch suitable for reliable conversion of two power sources in 50/60Hz 10A-630A low-voltage AC power distribution system. It has four working modes: automatic, motor drive, emergency manual and locking.

Model description



Classification by functions

M: Basic type

T: LED indicator controller (Intelligent type)

E: LCD display controller (Intelligent type)

Normal working conditions

- Between -10℃ and +40℃, 24h average value does not exceed +35℃
- Average humidity at +40℃ does not exceed 50%, no condensation;
- Less than 2000 meters, if it exceeds 2000 meters, please reduce the rated value.
- No strong vibration and impact in the use environment, no harmful gases that corrode metals and damage insulation
- No severe dust, no conductive particles and explosive hazardous substances
- Between -20℃ and 70℃, dry, non-corrosive and non-saline environment, the longest period is 1 year.
- Can be installed vertically or horizontally, upside down installation is prohibited.
- Standard:GB/T14048.11 and IEC60947-6-1

The main technical parameters

Characteristics comply with IEC 60947-6-1 & GB/T14048.11							
Frame size		125	200	400		630	
Conventional heating current I (up to 40℃)		125A	200A	250A	400A	500A	630A
Rated insulation voltage U(V) (main circuit)		800	800	1000	1000	1000	1000
Rated impulse withstand voltage Uimp(kV)(power supply circuit)		6	8	10	10	12	12
Rated insulation voltage U (V) (control circuit)		300	300	300	300	300	300
Rated impulse withstand voltage Uimp (kV) (control circuit)		4	4	4	4	4	4
Rated operating current Ie(A) according to IEC 60947-6-1 & GB/T14048.11 standard							
Rated voltage	Use category						
400 VAC	AC-31B	125	200	250	400	500	630
400 VAC	AC-32B	125	200	250	400	500	630
400 VAC	AC-33B	125	200	250	400	500	500

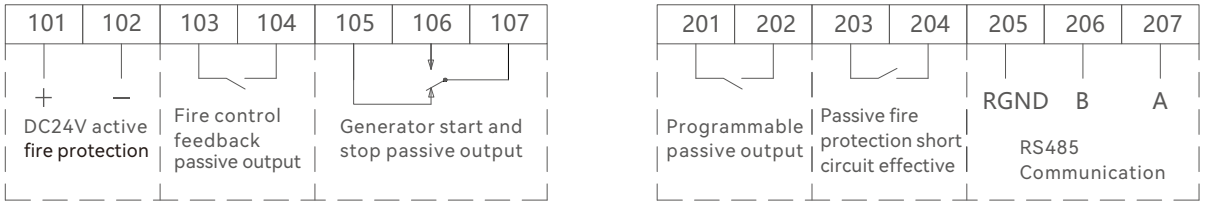
Controller Function Table

Function \ Model	E type	T type	M type
Status display	LCD display+LED indicator	LED indicator+Rotary adjustment	LED indicator
Manual operate	●	●	——
Auto switch and auto recovery (Ⅰ &Ⅱ)	●	●	●
Mutual backup(auto switch, no auto recovery)	●	●	——
DC 24V Fire control linkage	●	●	——
Fire control feedback	●	●	——
Passive fire control linkage	●	●	——
Over & undervoltage monitoring	• (Three phase four wires)	• (Only monitor phase C)	——
Over & undervoltage adjustable	● (Overvoltage 225-265V Undervoltage 160-215V)	Default(Overvoltage 260V Undervoltage 170V)	——
Over & undervoltage hysteresis values adjustable	● (2-20%)	Default(3%)	——
Over & underfrequency monitoring	●	——	——
Over & underfrequency adjustable	• (Over&under Frequency 40-70Hz)	——	——
Over & underfrequency return values adjustable	● (42-68Hz)	——	——
Phase sequence (reverse phase) detection	●	——	——
Voltage&frequency&phase sequence detection on/off adjustable	●	——	——
Switching delay adjustable	● (0-90S)	● (Rotary adjustment 0-60S)	——
Fault & recovery delays adjustable	● (0-60S)	Default(1S)	——
Start & stop generator delay adjustable	● (0-300S)	Default(30S)	——
Transfer failure indicator	●	●	——
Programmable output port	●	——	——
RS485 Communication	●	——	——

Note: ① Symbol "●" indicates a standard function, "—" indicates no such function.
②The overvoltage, undervoltage and delay time of the T type ATS are set to the above parameters by factory default.
If other parameters are required, such as overvoltage 255V, undervoltage 180V, etc., please contact sales when ordering.

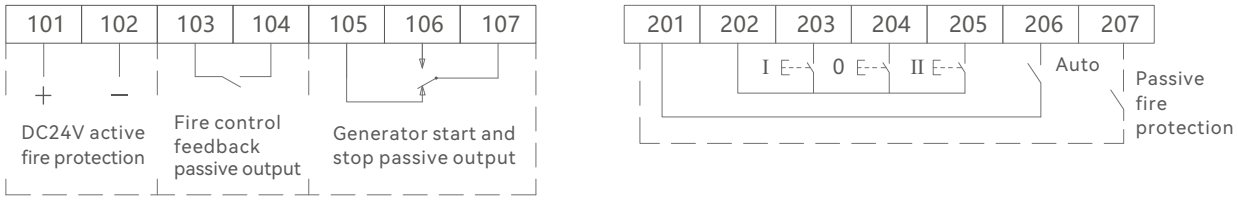
Terminal Function Introduction

E type



Terminal number	Terminal point number	Function	Illustrate
Terminal 1	101、102	101, 102 Fire control	DC24V constant voltage signal input
	103、104	103, 104 Fire control feedback	Passive contact 1A AC 220V
	105、106、107	105, 106, 107 Generator start and stop signal output	Passive contact 5A AC 220V
Terminal 2	201、202	201, 202 Programmable passive contact output	Passive contact 1A AC 220V
	203、204	When 203, 204 short-circuited, execute forced 0 position.	/
	205、206、207	205, 206, 207 RS485 communication input terminal	
Terminal 3	301、302、303	301, 302, 303 I way passive output (SPDT)	Passive contact 1A AC 220V
	304、305、306	304, 305, 306 II way passive output (SPDT)	

T type



Terminal number	Terminal point number	Function	Illustrate
Terminal 1	101、102	101, 102 Fire control	DC24V constant voltage signal input
	103、104	103, 104 Fire control feedback	Passive contact 1A AC 220V
	105、106、107	105, 106, 107 Generator start and stop signal output	Passive contact 5A AC 220V
Terminal 2	201、206	201, 206 Open for passive control Closed for automatic control	When the external button is switched to remote control, 201-206 must be in the disconnected state
	202、203	When 202,203 short-circuited, execute I way closing	Active input is prohibited, otherwise it will damage the controller.
	202、204	When 202,204 short-circuited, execute 0 position	
	202、205	When 202,205 short-circuited, execute II way closing	
	201、207	When 201,207 short-circuited, execute forced 0 position.	
Terminal 3	301、302、303	301, 302, 303 I way passive output (SPDT)	Passive contact 1A AC 220V
	304、305、306	304, 305, 306 II way passive output (SPDT)	

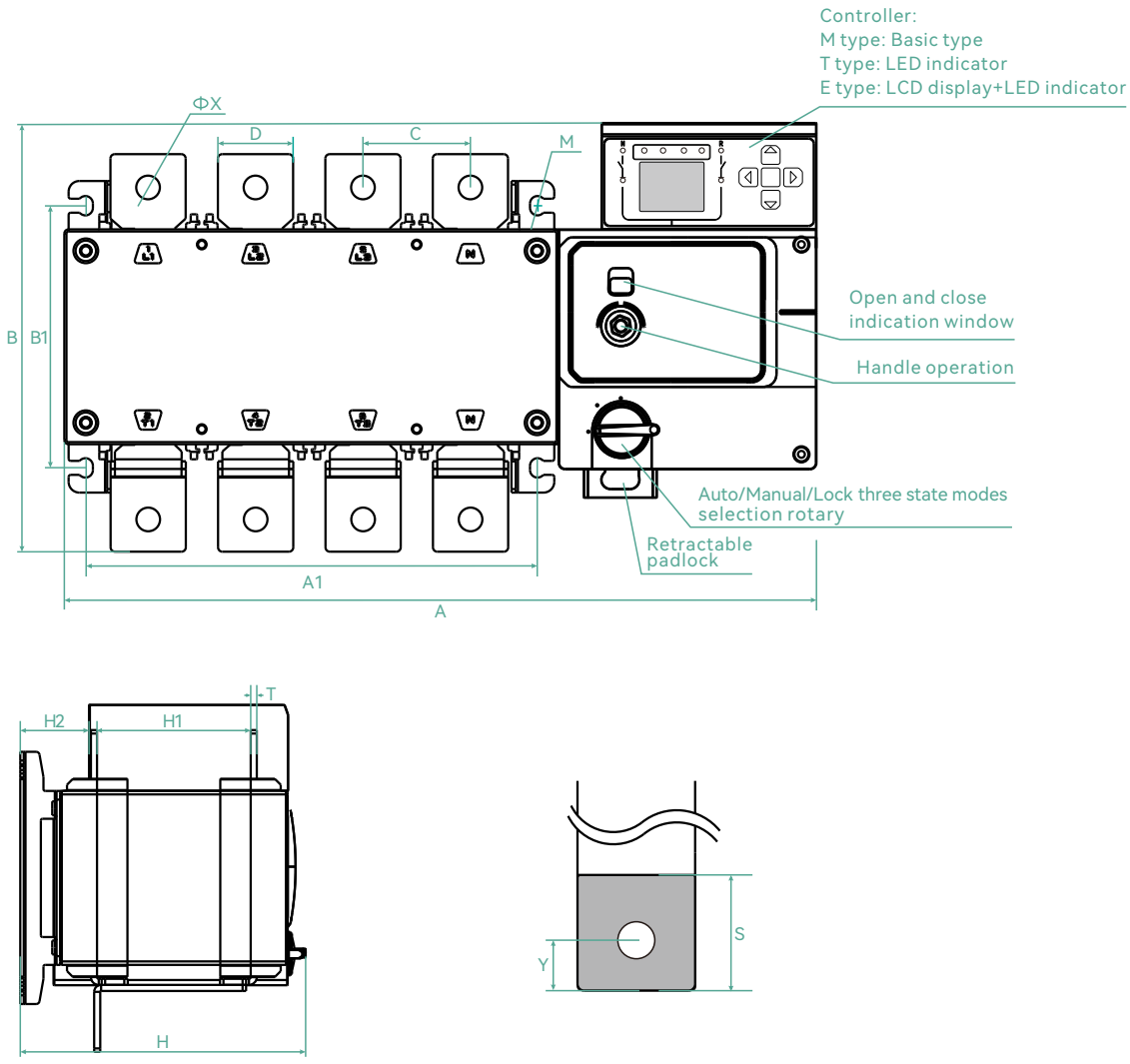
M type

Terminal number	Terminal point number	Function	Illustrate
Terminal 3	301、302、303	301, 302, 303 I way passive output (SPDT)	Passive contact 1A AC 220V
	304、305、306	304, 305, 306 II way passive output (SPDT)	

* Achieve basic transfer function.

Appearance Figure

125A~630A Dimensions



Installation Dimensions Table

Specifications	A	A1	B	B1	C	D	H	H1	H2	T	X	M	Y	S
125A	215	150	153	96	30	14	121	64.5	29.5	2.5	7	6	8	16
200A	272	200	167.5	107	36	20	141	76.5	33.5	3.5	9	6	10	25
250A	348	210	210	122	50	25	164	88	40.5	3.5	11	6	15	30
400A	348	210	210	122	50	35	164	88	40.5	3.5	11	6	15	35
630A	424.5	273	269	184	65	40	257.5	150	55.5	5	13	8	15	40

HYCQ4 Automatic Transfer Switches

Featurse

- HYCQ4-125~800A 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℃ , not lower than -5℃ ;
- 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℃ or -5℃ ~-45℃ , please inform the manufacturer.

Model description

HYC 4 - □ / □ □

- Type of device (M:Basic type; F:Fire control type)
- Pole number 4P
- Conventional heating current
- Design code
- Automatic transfer switch

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.

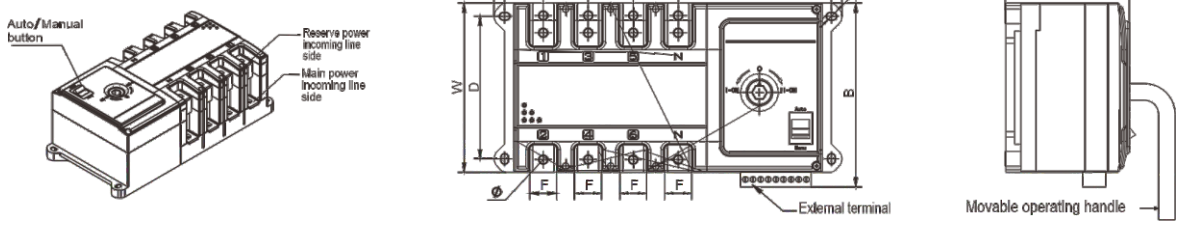
- Features:
  The switch has three operating functions:
  1. Manual handle operation;
  2. Automatic control operation;

  The switch has three status positions I 0 II

The main technical parameters

Model	HYCQ4-125	HYCQ4-250	HYCQ4-800
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

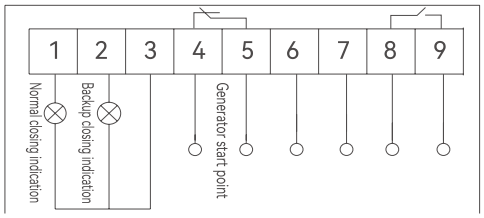
Shape and installation dimensions



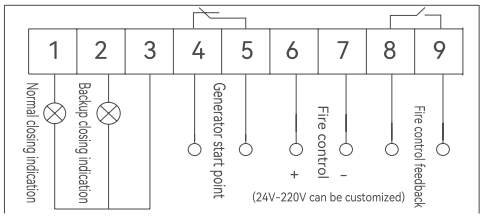
Specification	A	B	C	D	E	F	H	Φ
HYCQ4-125	232	122	218	95.5	30	18	83	6
HYCQ4-250	300	153	287	128	36	23	122	8
HYCQ4-800	432	257	410	218	58	44	195	12

Secondary wiring diagram

Basic type



Fire control type



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".

HYCQ1 Automatic Transfer Switches

Product 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.

Models description

HYCQ 1 - □ □

- Pole number: 4P
- Frame current: 100A, 160A, 250A, 630A, 1600A, 3200A
- Design code
- Enterprise code of automatic transfer switch

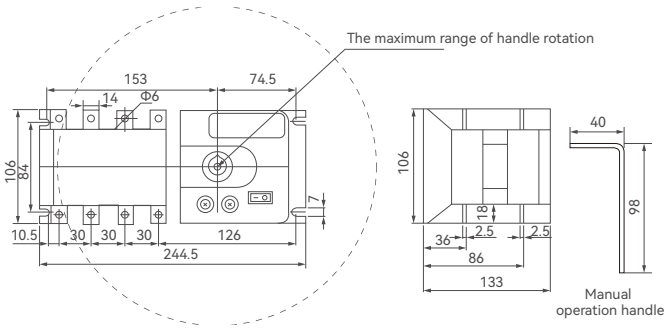
Conditions of Use

- Ambient air temperature: -25℃ ~ +55℃ .
- 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.

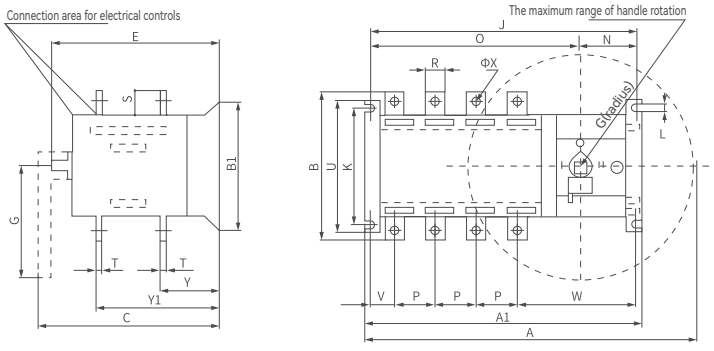
The main technical parameters

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

HYCQ1-100 Outline Installation dimensions

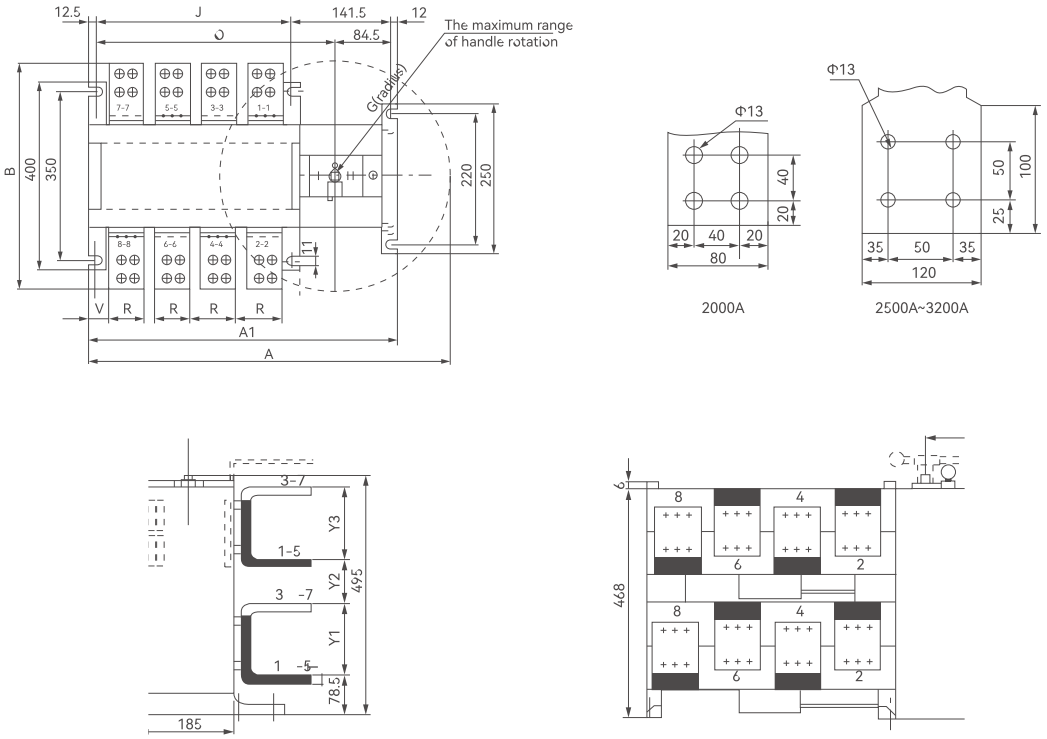


HYCQ1 -125~1600 Outline Installation dimensions



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	

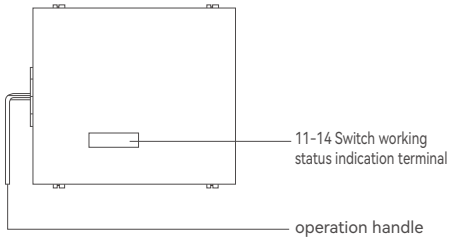
HYCQ1-2000A~3200A Outline Installation dimensions

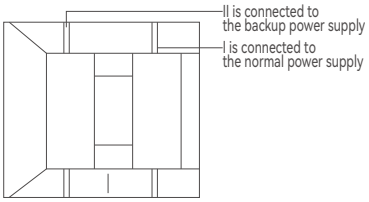


	Overall size							switch installation					Terminals										
Specification	A	A1	B	C	E	G	H	J	K	L	N	O	P	R	S	T	U	V	W	X	Y1	Y2	Y3
2000A	1007	633	455	556		470		467				524		80	80	15		33			147	84	147
2500A	1007	633	455	556		470		467				524		120	112	15		13			152	79	152
3200A	1007	633	505	556		470		467				524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

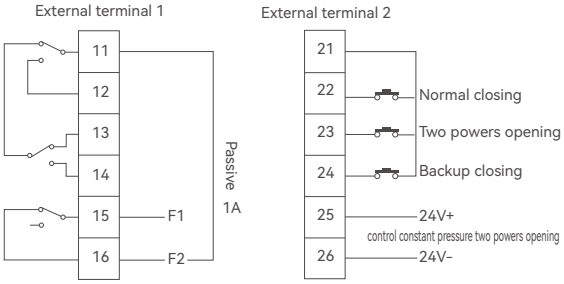
HYCQ1-100 wiring diagram

◆ Typical Wiring

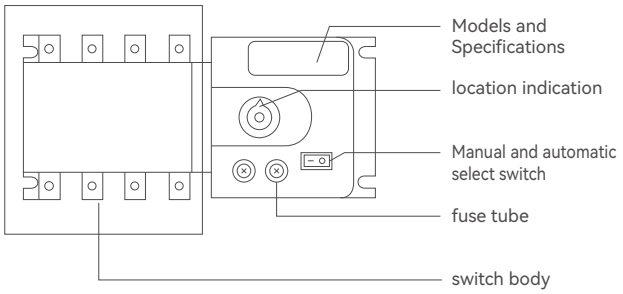




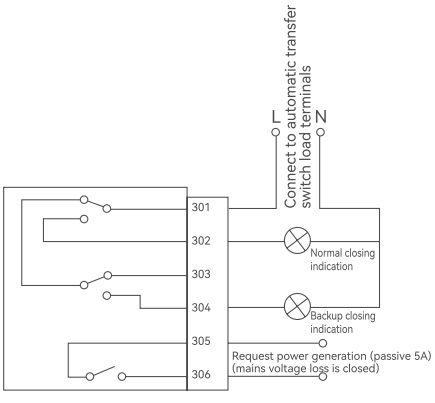
◆ Secondary terminal wiring diagram



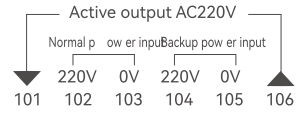
◆ Switch Structure Description



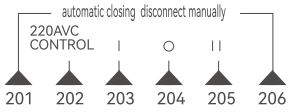
HYCQ1-125~3200A
basic secondary wiring diagram



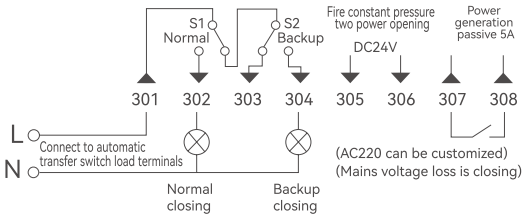
HYCQ1-125~3200A
fire control type secondary wiring diagram



Note: 102-105 must be connected to the power supply, otherwise the product will not automatically transfer



Note: When 202-205 need external control,
it is valid only when 201 and 206 are disconnected
1. When 202 and 203 are connected, it is closing "I"
2. When 202 and 204 are connected, two powers are opening "O"
3.When 202 and 205 are connected, it is opening " ‖ "



The product data referred to in the company shall be subject to material object, Subject to change without notice. The company has the final right to interpret.

Green paper printing.

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