

Distribution Apparatus

YCQ9Ms Automatic transfer switch



General

YCQ9Ms series dual power automatic transfer switch is suitable for power supply system with AC 50/60Hz, rated working voltage AC400V, rated working current 800A and below.

It is possible to select and switch between two power sources according to requirements, ensuring uninterrupted operation of key power sources. When one power supply has overvoltage, undervoltage or phase loss, it will automatically switch to another power supply or start the generator.

Built-in RS485 communication interface, communication protocol MODBUS-RTU, realize real-time data upload, remote data configuration and status monitoring, as well as remote control, telemetry, remote control and remote adjustment functions. Mainly used in hospitals, shopping malls, banks, hotels, high-rise buildings, fire protection and other places that do not allow long-term power outages with uninterrupted power supply required.

Standard: IEC 60947-6-1

Selection

YCQ9Ms	125	M	3	100A	W2
Product name	Shell frame grade	Breaking capacity	Number of poles	Rated current	Controller code
YCQ9Ms: Dual power automatic transfer switch	63: (10-63A)	M: Standard type	3:3P 4:4P	10、16、25、 32、40、 50、63、 80、100、 125、140、 160、180、 200、225、 250、315、 400、500、 630、800、	Default : LED
	125: (16-125A)				Y: LCD
	250: (100-250A)				W2:
	400: (250-400A)				Split LED display
	630: (400-630A)				W3:
	800: (630-800A)				Split LED display

Working conditions

1. Can work in the environment of -5°C~40°C
2. The altitude of the installation site does not exceed 2000m
3. When the highest temperature is +40°C, the relative humidity of the air should not exceed 50%
4. Higher humidity is allowed at lower temperature, 20°C~90%

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Technical data

Type	YCQ9Ms					
Shell frame	63	125	250	400	630	800
Rated working current In(A)	10, 16, 20, 25, 32, 40, 50, 63	16, 20, 25, 32, 40, 50, 63, 80, 100, 125	100, 125, 140, 160, 180, 200, 225, 250	250, 315, 350, 400	400, 500, 630	630, 800
Number of poles	3, 4					
Electrical class	Class CB					
Use category	AC33iB					
Rated working voltage Ue(V)	AC380, 400					
Rated insulation voltage Ui(V)	AC690					AC800
Rated impulse withstand voltage Uimp(KV)	8					
Rated short-circuit breaking capacity Icn(KA)	15	25	25	35	35	35
Electrical life	1000			1000	500	
Mechanical life	5000			3000	2500	
Rated working system	Uninterrupt working system					
Overvoltage transfer setpoint	AC230V-AC300V					
Undervoltage transfer setpoint	AC150V~AC210V					
Contact switch time	< 4s					
Disconnection delay	1s-240s continuously adjustable					
Shutdown delay	1s-240s continuously adjustable					



Serial number definition

1. Handle	7. Alternative power input and power sampling line	
2. Nameplate	8. Controller display	
3. Main contact position indication	Normal power	9. Controller control button
	OFF-OFF	10. Fixed screw holes
	Alternative power	11. Alternative power load side
4. Trademark	12. Power indication, closing indication, fault indication output terminal	
5. Normal power input and power sampling line	13. Normal power load side	
6. Signal terminal: Fire voltage input, generator start signal output	14. Enclosure grounding terminal	

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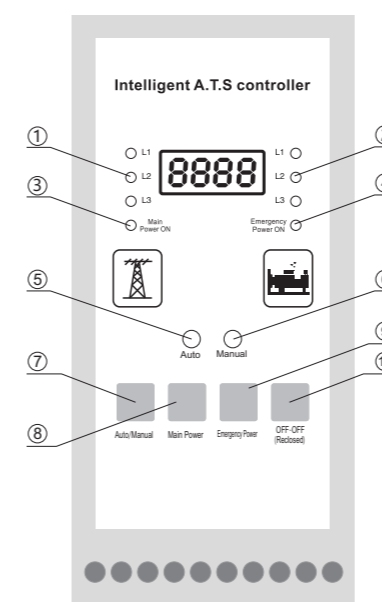


Function Introduction

Function	Full-function type
Manual mode	■
Automatic mode	■
Motor protection function	■
Main contact working position (performing circuit breaker)	
Normal power supply closed	■
Reserve power supply closed	■
Double break	■
Automatic control	
Monitoring normal power supply	■
Monitoring reserve power supply	■
Self-throwing and self-reset	■
Self-throwing and non self-reset	■
Reserve for each other	■
Power grid-power grid	■
Power grid-power generation	■
Phase failure instantaneous protection	■
Under-voltage protection 150-210V	adjustable
Over-voltage protection 230-300V	adjustable
Fire control function	■
Changeover time delay 0-240s continuously adjustable	■
Returning time delay 0-240s continuously adjustable	■
Frequency display	■
Communication function	optional
Indication	
N on/R on/double break indication	■
Normal power supply indication	■
Reserve power supply indication	■
Fault tripping indication	■
Parameter setting indication	■
Voltage real time indication	■
Normal three phase voltage protection	three phase
Reserve three phase voltage protection	three phase

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Model	YCQ2-125/250	YCQ2-400	YCQ2-630/800/1250
Mechanical life	5000	3000	2500
Electric life	1000	1000	500
Rated working system	Uninterrupted working system		
Over voltage transfer adjustive value	270VAC		
Set the adjustable range of under voltage	(70%~85%)Ue Adjustable continuously		
Transfer time of contact	4s		
Open-transition delay time t1	0.5~30s Adjustable continuously		
Open-transition delay time t2	0.5~30s Adjustable continuously		



Y type controller panel instruction

1. Normal power L1, L2, L3 phase power indicator
2. Alternative power L1, L2, L3 phase power indicator
3. Indicator light for normal power on.
4. Indicator light for alternative power on.
5. Indicator light for automatic working status.
6. Indicator light for manual working status
7. Automatic/Manual button
8. Main power
9. Emergency power
10. OFF-OFF (reclosed) button

Controller

Automatic transfer switch according power supply condition and the parameter that user set to choose if transfer from one power to the other power. It's function depends on the controller. There are 3 types (Y, w2 and w3) of controller. The features and functionality of controller as following.



W2
(CONTROLLER)



W3
(CONTROLLER)

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Technical data

Controller	Y type Controller	W2 type Controller	W3 type Controller
Working power supply	AC160-250V 50/60Hz	DC12V (Provided by the in side OF y TYPE CONTROLLER)	
Installation	Integral type	Split type	
Position	3 Positions		
Mode of operation	Auto, manual and electro-manual operation		
Voltage monitoring function	3 phase over-voltage, under-voltage and phase loss monitoring		
Frequency monitoring function	Frequency monitoring		
Generator control	A set of 3A relay dry contact		
Fire linkage control	Passive contact input, with a set of normally open passive signal feedback contact		
Mode of conversion	According to users requirement could set at A uto Can set at Auto transfer and auto recover,Auto transfer and non-auto recovery or utility generator type mode according to user's requirement.		
Display	LED display	LCD display	
Conversion time delay	0.5s-60s continuously adjustable		
Return time delay	0.5s-60s continuously adjustable		

Model	Match circuit breaker	Pole	Rated short circuit making capacity(Icm)	Rated short circuit breaking capacity(Icn)	Rated current of circuit breaker (A)	Rated insulation voltage(V)
YCQ9Ms-63	YCM1-63	3	31.5	15	10, 16, 20, 32	690
		4	31.5	15	40, 50, 63	
YCQ9Ms-125	YCM1-125	3	52.5	25	16, 20, 32, 40,	690
		4	52.5	25	50, 63, 80, 100, 125	
YCQ9Ms-250	YCM1-250	3	52.5	25	125, 160, 180,	690
		4	52.5	25	200, 225, 250	
YCQ9Ms-400	YCM1-400	3	73.5	35	250, 315, 350, 400	690
		4	73.5	35		
YCQ9Ms-630	YCM1-630	3	73.5	35	500, 630	690
		4	73.5	35		
YCQ9Ms-800	YCM1-800	3	73.5	35	700, 800	800
		4	73.5	35		

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Installation and wiring

Switching device installation: After fixing the switching device, according to the rated current to choose the appropriate wires to wire. Note: The phase sequence of main power and emergency power must be consistent.

Split type controller installation:

Use 2 strutting pieces to fix the split type controller on the panel.

Please check if the controller has been plugged into switching device and fastening screw.

Please check whether each electric contact part is reliable and the fuse if good.

If user wants to withstand voltage test, please remove the controller first. Otherwise the controller will be broken down.

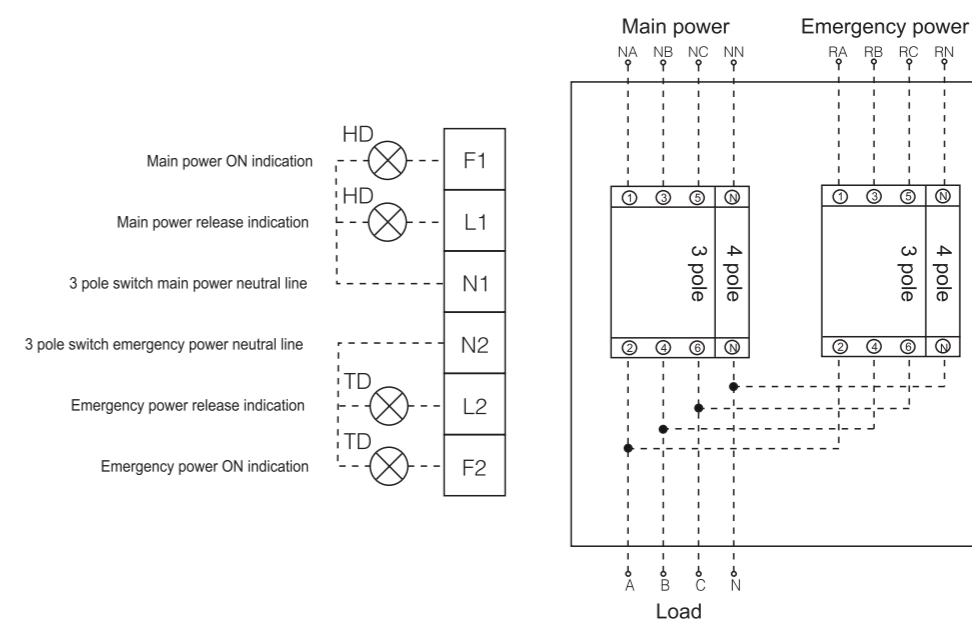
For the 3 pole switch, user needs to connect main power neutral line to terminal N1 port.

Connect emergency power neutral line to terminal N2 port. Neutral line must be reliable and don't connect wrong so that ATS could proper work.

For the 4 pole switch, main and emergency power neutral line must be connected to the corresponding circuit breaker N pole.

In addition, switching device should ground connection at the grounding mark.

User could connect indicator light to the terminal for observation. Refer to the wiring diagram below.



Note:

This diagram applies to three-phase four-wire. When using three-phase three-wire system, the neutral line of main power connects to terminal N1 port, neutral line of emergency power connects to terminal N2 port.

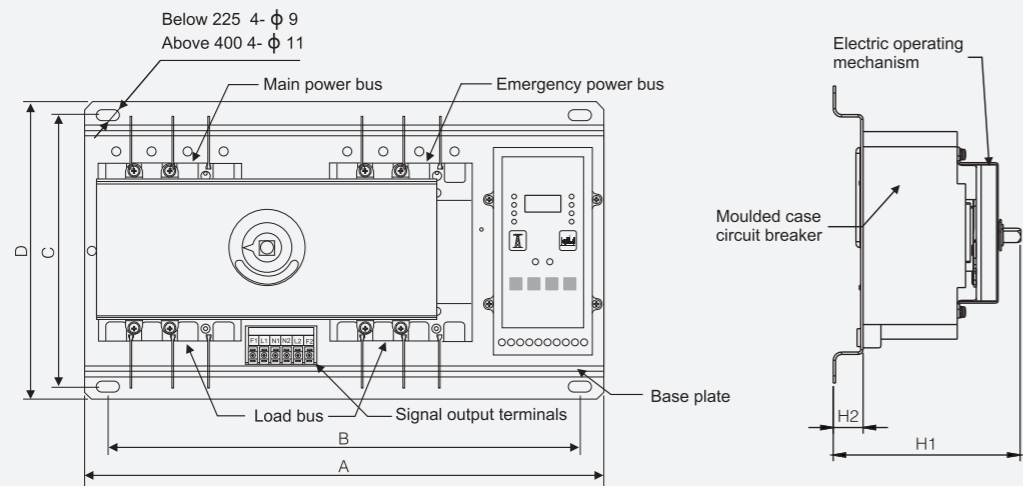
HD main power indication AC220V(User-provided).

TD main power indication AC220V(User-provided).

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Overall and mounting dimensions(mm)



Dimensions Specification	A		D	B		C	H1	H2
	3P	4P		3P	4P			
YCQ9Ms-63	380	405	250	340	365	230	<160	25
YCQ9Ms-125	405	435	250	365	395	230	<170	25
YCQ9Ms-250	450	480	250	410	440	230	<190	25
YCQ9Ms-400	570	620	330	510	560	300	<200	25
YCQ9Ms-630	680	740	330	620	680	300	<250	25
YCQ9Ms-800	750	820	330	690	760	300	<250	25