<Please read instruction book carefully when you installation>

No.YEQ3CN15032901

Content

1.General

With the continuous development of modern scientific and technological level, new technologies continue to emerge, people are increasingly high reliability of power supply,on many occasions, the use of two independent power supply, in order to ensure the normal electricity; to this end, the company developed out of a new intelligent dual power automatic transfer switch, mechatronics design, switching accurate, reliable, electromagnetic compatibility, strong anti-interference ability, high degree of automation. The product not only be able to switch between two power supplies, but also for the two ways three-phase four -wire voltagesimultaneously detect when any phase voltage is abnormal, can automatically switch to the normal power supply.

2.Use range

Intelligent dual power automatic switching system for AC 50 / 60Hz, rated working voltage 400V, rated current up to 125A dual power supply system, to achieve the common power supply (N) with automatic standby power switch (R) between the (also can be used to manually switch).

This product is suitable for Class I power systems, especially for important places can not lift the blackout, fire, subways, hospitals, telecommunication, television, industrial pipeline, marine and other emergency electricity sector, for continuous power supply reliability particularly important.

3.Standard

This product meets the standards:

GB14048.1 IEC60947-1 voltage switchgear and control equipment Part 1: General 3.2 GB / T14048.11

IEC60947-6-1 voltage switchgear and control equipment, Part 6-1: multifunction appliances, electrical switch.

4.Applicable range

Ambient Air Temperature

The upper limit of ambient air temperature not exceeding +40℃, lower limit not lower than -10℃,

room average not greater than -35℃. In case that the ambient air temperature is lower than -10℃or higher than 40℃, please notify the supplier when placing an order.

Atmospheric Temperature

Maximum temperature +40℃, relative humidity not exceeding 95%, and monthly maximum relativehumidity not greater than 95%.

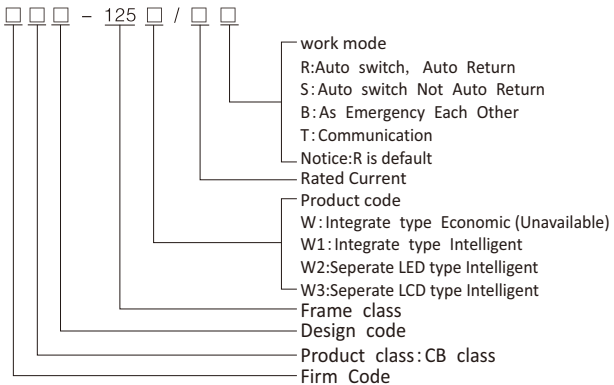
Installation Height

The altitude of installation site shall not exceed 2,000 meters. If higher than this point, please consult with our company.

Pollution Classification

The environmental pollution classification of installation site is 3.

5.Product model and mean



6.Product Structure, Character, Function

6.1 Structure

The intelligent dual power switching system (hereinafter referred to as Intelligent System) is an intelligent system consists of two parts, the controller and the main unit composed by two circuit breakers assembled in a switch unit, to achieve two input ports, one way output simplified structure.

Smart device body is composed of special positive, reverse the motor, circuit breaker components.

Mechanical and electrical interlock systems protection, to provide you with a safe and reliable power supply guarantee.

Comes with active and passive closing instructions closing auxiliary output.

Closing and tripping alarm auxiliary aid to achieve removable, the user can freely realize installation and matching.

6.2 character

a、CB class ATS come true Two input One output

b、Removale Auxiliary alarm and closing auxiliary

c、Complete function,SMART

d、Parameter can set,remote communication operation

e、Full bakelite shell, high safety factor, external zero fly arc

f、The compact design of anti-jamming performance

g、Small size, appearance patent products, with isolation.

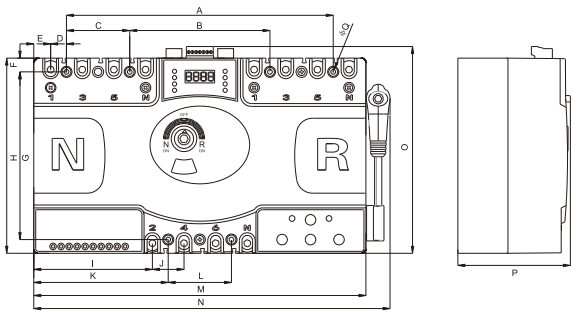
h、Multi-function operating handle, the operating handle can be used in change over,also used to fasten the screw, easy installation.

6.3 Controller function

Model	W	W1	W2	W3
Installation type	Integrate type(Unavailable)	Integrate type	Separate type	Separate type
Display type	Indication display	LED+ Indication display	LED+ Indication display	LCD+ Indication display
Rated work duty	Uninterrupted work system			
Auto Switch Auto Return	■	■	■	■
Auto Switch Not Auto Return	□	■	■	■
As emergency Each other	□	■	■	■
Start Generator function	■	■	■	■
Main Power Detection	Three phase under voltage, lost phase detection	Four phase under voltage,over voltage lost phase detection		
Emergency Detection	Single phase(A phase)lose voltage detection	Four phase under voltage,over voltage lost phase detection		
Passive fire fight input	■	■	■	■
DC24V passive fire fight input	□	■	■	■
Fire fight feedback	□	■	■	■
Unload	□	■	■	■
Active closing indication	■	■	■	■
Passive closing auxiliary	■	■	■	■
Passive tripping alarm auxiliary	■	■	■	■
Main and Emergency Power Indication	■	■	■	■
Rs485 communication function	□	■	■	■
Changover delay time	□	■	■	■
Smart controller	□	■	■	■
Voltage display real time	□	■	■	■
Frequency detection	□	■	■	■
Button operation changeover	□	■	■	■

Notice: ■have this function , □nean no this function.

7.Outline and Installation Dimension

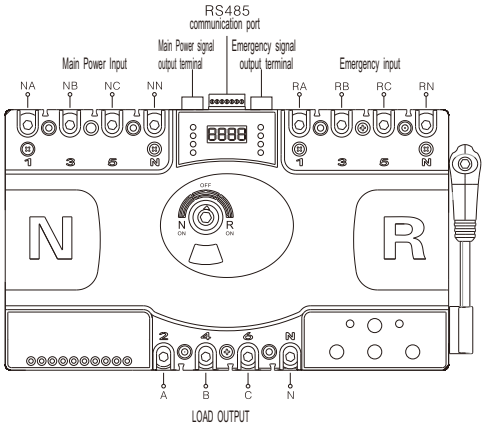


Specification \ Dimension	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
125(mm)	253	133	60	15	16	13	159	185	112.5	30	127.5	60	315	338	196	107	ϕ4.5
250(mm)	288	148	70	17.5	21	13	189	215	130	35	147.5	70	365	390	230	125	ϕ4.5

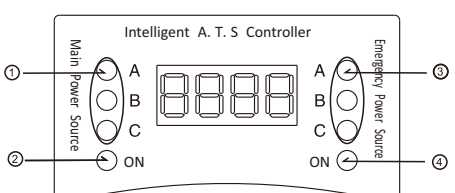
8、Technology Parameter

Model	125	250
Mechanism Life	7000	5000
Electric Life	3000	2000
Rated working voltage	AC400V/AC690V	
Rated operation voltage	AC220V	
Rated insulated voltage	AC800V	
Contact transfer time	≤3s	
Change over time N-R, R-N	≤6s	
Rated short circuit closing capacity Icm	52.5KA	
Rated short circuit breaking capacity Icn	25KA	
Operate cycle (Seconds/times)	10	

9、Controller Installation and Connection Schematic



10、Intelligent Controller Panel Layout and description

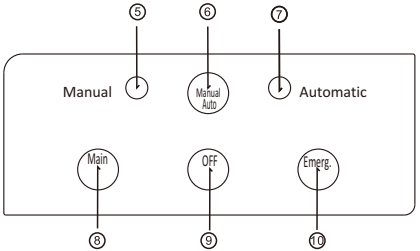


① Main Power A、B、C three phase indication light: When Main Power A、B、C three phase voltage in controller set range lightening.

② Main Power ON indication light: When main power circuit breaker in closing lightening.

③ Emergency Power A、B、C three phase indication light: when main power A、B、C three phase voltage in controller set range lightening.

④ Emergency Power ON indication light: When emergency power circuit breaker in closing lightening.



⑤ Manual work status indication:Under manual work status,user can through keyboard to control switch transfer.

⑥ Manual or Automatic work status transfer button: User through keyboard to choose manual or automatic status.

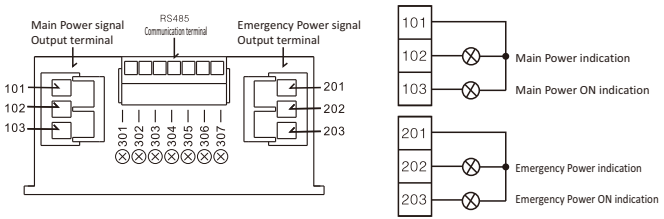
⑦ Automatic work status indication:Auto work is lightening,meanwhile controler in seperately detect voltage in main power and emergency power by automatically to finish switch transfer.

⑧ Manual status to cut to main power button.

⑨ Manual status to double off button.

⑩ Manual status cut to emergency power button.

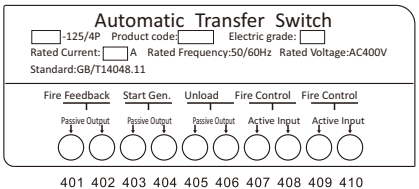
11、Terminals and connection



① 101~103 terminal status:indication signal (Active AC220V/0.2A)

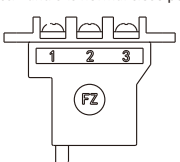
② 201~203 terminal status:indication signal(Active AC220V/0.2A)

③ 301~307 terminal:communication port:301(485+)、302（485−）、303（EGND） exterior controller port：304（TXD）、305（RXD）power port：306（GND）、307（VCC）

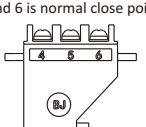


④ 401~402－－Fire control Feedback output;
403~404－－ Start Generator start output;
405~406－－ Unload output;
407~408－－Active fire control input:9V-36V,407(+),408(-)
409~410－－Passive fire control input(close point input)

Auxiliary contact:1 and 3 is normal close point,1 and 2 is normal open point

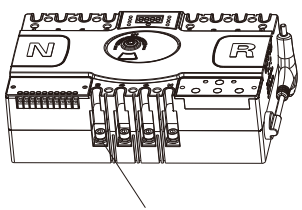


warn contact:4 and 6 is normal close point,4 and 5 is normal open point



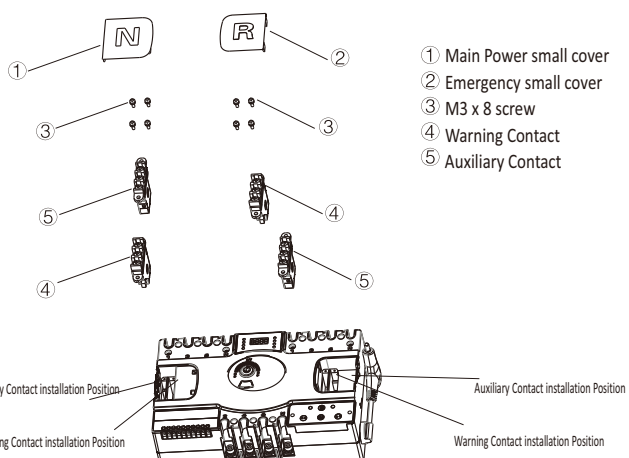
12、Two input one output

Main Circuit breaker output port seperatelly through connect termianls and Emergency Circuit breaker output port, connect as output port.



Main and Emergency Circuit breaker use common output terminal block

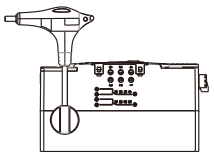
13、Auxiliary Installation



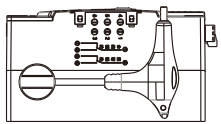
① Main Power small cover
② Emergency small cover
③ M3 x 8 screw
④ Warning Contact
⑤ Auxiliary Contact

14、Multifunction operation handle

14.1 Handle installation Schematic diagram

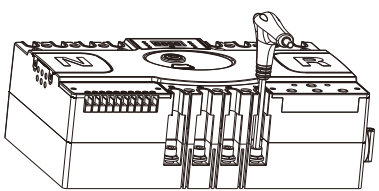


Handle insert switch no rotary

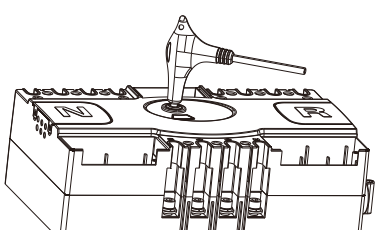


After handle insert switch rotary,handle already fixed

14.2 Handle function



Handle can use fasten two ways load side input and output terminal blocks



Handle also can use manual adjust Automatic Transfer Switch

15、W1、W2、W3 controller operation

15. 1 LED display introduce

Normal work status display as follwoing:

a, b, c, f is main power A, B, C three phase voltage and frequency.

a. , b. , c. , f. is emergency power A, B, C three phase voltage and frequcny closing light in spark mean switch in delay prepare to change over.

changeover fault status display as following:

Display"nEtt":mean when change over to main power, motor over time out faults.

Display "tEtt":mean when change over to Emergency power, motor over time out faults.

Display"–Ett":mean in double off status motor over time out fault.

15. 2 Parameter code, range and Default Value

Parameter code	Parameter Name	code	Range	Default Value
U 260	Main Over Voltage Threshold	1	AC230–AC300	260
u 175	Main Under Voltage Threshold	2	AC150–AC210	175
L 010	Main Voltage return value	3	0–50v	10
t 005	Main transfer delay time	4	0–240s	2
U.260	Emergency Over voltage Threshold	5	AC230–AC300	260
u.175	Emergency Under Voltage Threshold	6	AC150–AC210	175
L.010	Emergency voltage return value	7	0–50V	10
t.005	Emergency transfer delay time	8	0S–240S	2
q.005	Start Generator delay time	9	0S–120S	5
d.005	Stop Generator delay time	10	0S–120S	5
E.000	Auto switch,Auto Return- Auto switch Not Auto Return- As Emergency Each other.	11	0=Auto switch,Auto Return; 1=Auto switch Not Auto Return; 2=As Emergency Each other.	0
F.001	Work Frequency	12	1=50Hz(40–60) 0=60Hz(50–70)	1
J.001	Machine address	13	1 – 32	1
b.001	Baud Rate choose	14	1=2400 2=4800 3=9600 4=19200	3
H.001	Restore the initial factory	15	1=Restore the initial factory	0

15.3 Setting the operating process

■ Parameter amend operating process

The way to enter into: Continue to click"Manual/Auto"button ten times enter into the manu of parameter amendment. The fourth code display flicker.

Amend parameter: Click"Main"button turn page down or "Emergency" button page turn up. Click "OFF" button confirm enter into to amend parameter, the last three-positions flicker, then click "Mainl" or"Emergency"to increase or decrease the number, click the "OFF"save the parameter and into the next options. Exit: 10s no click action will automatic exit or click "OFF"ten times.If you no click the save button it will not save the amended parameter and exit directly .

■ Voltage calibration operating process

Enter into: In automatic mode, click "Emergency" ten times enter into, the fourth position show"Three"and flicker.

Calibration voltage: Must debug all the main power and emergency power voltage to AC220V, then click"OFF" save the calibrate data at present.

Exit: In 10s no click action will automatic exit or click"Emergency " ten times to exit.

■ Change record query

Enter into: In automatic mode, meanwhile click the "Main" and "Emergency" to enter into the
recently change record.
E-01: The newest change record recently.
E-02: The secondly change record recently.
E-03: The third change record recently.
Click "OFF" enter into to query the change reasons
u-00: means no change record.
u-01: means Main A phase fault
u-02: means Main B phase fault
u-03: means Main C phase fault
(Notice: No following faults no have record,faults including lost phase, under voltage,pver voltagelose voltage faults, and Main Power A.B.C.N cut the power at the same time also no record.)
Exit way: In 10s no click action will automatic exit.

16、Communication configurations and connection

The controller of the YEQ3 series has RS485 serial port, be allowed to connect the local area network with open structure.It's apply protocols of ModBus communication and value the PC or data acquisition system running software provide a simple practical dual power switching management plan to factories, telecom, industrial and civil building, achieve dual power monitor and "remote controlling, remote measuring, remote communication"functions.

More information of Communication protocol, see the"Q3 V1.0 communication protocol"

Communication parameters,

- Module address :1(rang: 1-32, User can set it)
- Baud rate: 9600 bps(option)
- Date bit: 8 bit
- Parity bit :None
- Stop bit: 1 or 2 bits

17.Fault Analyse and remove

It is no response after start the switch, and the electric operating mechanism not action after pressthe instruction button: Please check the fuse protector and the wiring connection.

The three phases powerand the neutral line must connected, the fixed screw must tighten on the cable head.

After making the power,although each phase voltage all in normal,but the panel display still in under voltage,please check the power if connection well,if have lost phase status.

After making the power,controller have electric,but the motor operation mechanism no acition,please check the switch unit two piece fuse if due to motorized operation over current then fused,should replace new one to try.

Error Display code:

- Display: "E--1" means main power side circuit breaker trip out.
- Display: "E--2" means emergency power side circuit breaker trip out.
- Display: "E--3" means motor or mechanism fault result change over no action or out time long.
- Display: "E--4"means mechanism position detection error results faults

18. Other Notice

The switch unit should be periodic inspection and maintained as per the circuit breaker, electric operation mechanism's requirements. The automatic controller is maintain-free under normal use.

If long time no use the product, please notice dampproof and dustproof, and please debug the switch as per the above description, when everything is normal then could operation.