

# Power factor correction Static switching units (Three phase).



**Automatic capacitor banks with static system.**

# JK3PSZT-XXXXX

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## Automatic capacitor banks with static system

### Automatic capacitor banks with static system. JK3PSZT-XXXXX

The all series capacitor banks with static system have been designed for Power factor correction purposes in networks with fluctuating loads.

The variations in power are relatively fast (in milliseconds) so that the switching operations are carried out by thyristors, which are connected to a voltage control board, so that the connection and disconnection of the capacitor is carried out with a zero voltage difference.

Transients are prevented between the connection and disconnection of steps, obtaining the immediate response to the load fluctuations.

### Functions and advantages of capacitor banks with a static system

The functions or advantages of this compensation system are as follows:

- Immediate response to the compensation request. The response time of the Power factor correction can be of a single network frequency cycle, thus achieving an almost instantaneous compensation.
- Elimination of start-up transients produced by the capacitor's connection. The connection takes place when the voltage network matches that of the capacitor when it is partially or totally loaded.



- The lack of transients in the connection allows us to eliminate gaps, flicker and any other alteration generated by the connection's transient.

- Limited switching operations

Lower wear of capacitors and switching elements, due to the elimination of transients and the total absence of mobile mechanical parts. This is how we can greatly increase the working life of the unit, as compared to conventional electromechanical contactor units.

### Connection of a static capacitor bank

Static capacitor banks are usually connected to the general switchboard or secondary switchboards in the case of large-scale installations.

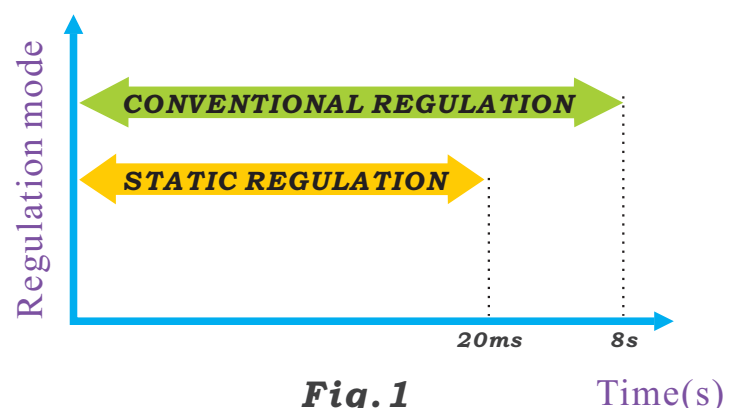






Fig. 1

Time(s)

Product selection table

Equipment	Type	System Voltage 400 V Scope / Capacitor Voltage	Weight	Photo
	JK3PSZT-48035	20KVAR/440VAC 22KVAR/480VAC 24KVAR/525VAC	3.3kg	1
	JK3PSZT-48050	28KVAR/440VAC 31KVAR/480VAC 34KVAR/525VAC	3.6kg	2
	JK3PSZT-48060	34KVAR/440VAC 37KVAR/480VAC 41KVAR/525VAC		
	JK3PSZT-48080	45KVAR/440VAC 49KVAR/480VAC 54KVAR/525VAC		
	JK3PSZT-48100	57KVAR/440VAC 62KVAR/480VAC 68KVAR/525VAC		
	JK3PSZT-48125	71KVAR/440VAC 77KVAR/480VAC 84KVAR/525VAC	5kg	3
	JK3PSZT-48160	90KVAR/440VAC 99KVAR/480VAC 108KVAR/525VAC		
	JK3PSZT-48180 JK3PSZT-69035 JK3PSZT-69050 JK3PSZT-69080 JK3PSZT-69100 JK3PSZT-69125 JK3PSZT-69160 JK3PSZT-69180	102KVAR/440VAC 111KVAR/480VAC 121KVAR/525VAC	5.6kg	4
	JK3PSZT-48225	127KVAR/440VAC 139KVAR/480VAC 152KVAR/525VAC	225A 16kg 250A 17kg 300A 18kg	5
	JK3PSZT-48250	141KVAR/440VAC 154KVAR/480VAC 169KVAR/525VAC		
	JK3PSZT-48300	169KVAR/440VAC 185KVAR/480VAC 202KVAR/525VAC		
	JK3PSZT-48350	198KVAR/440VAC 216KVAR/480VAC 236KVAR/525VAC	18kg	6
	JK3PSZT-48400	226KVAR/440VAC 246KVAR/480VAC 270KVAR/525VAC		

# JK3PSZT-XXXXX

Static switching units (three-phase)



## Description

The static switching modules of the JK3PSZT series are the basic building block for the construction of static capacitor banks for power factor correction purposes.

These capacitor banks use thyristors instead of the classic contactors for the connection of each large group of capacitors and they are ideal in installations where the leakage current suffers quick and large fluctuations (load changes in intervals that can range from split seconds to 8 or 10 seconds).

## Application

The static switching units of the JK3PSZT Series have been designed to connect and disconnect capacitors in milliseconds.

They can be used to build capacitors with various steps, or for the individual compensation of a load that must be compensated instantly due to connection / disconnection deficiencies, for example, in welding units, cranes, lifts, etc.

## Features

### Features

Standard voltages	208~240, 380~480, 500~600VAC±10%
Frequency	47~63 Hz
Auxiliary voltage	220VAC±15%
Overload capacity	1.5 /n during 1 min
Input control signal	AC control, 220VAC±15%. Contact control. DC control, 12~24VDC.

### Protections

Fuses	Bussmann or Hinoda
di / dt	RC protection at 1000 V / $\mu$ s
Thermostat	90°C
du / dt	100 A / $\mu$ s (L=12 $\mu$ H, not included, it must be installed in series with the capacitor)
Automatic fan	Heat sink 55°C start, 45°C stop

### Ambient conditions

Maximum ambient temperature	50°C
Maximum temperature of the dissipator	80°C

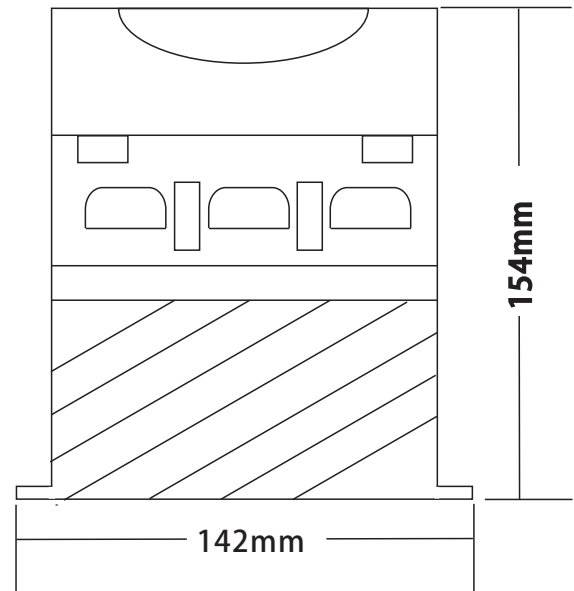
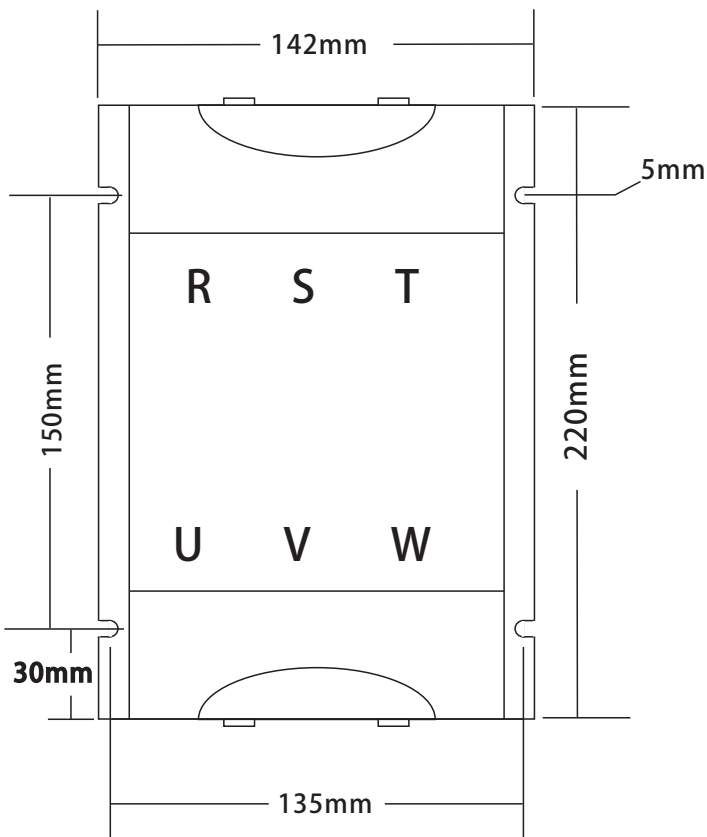
### Construction features

Degree of protection	IP00
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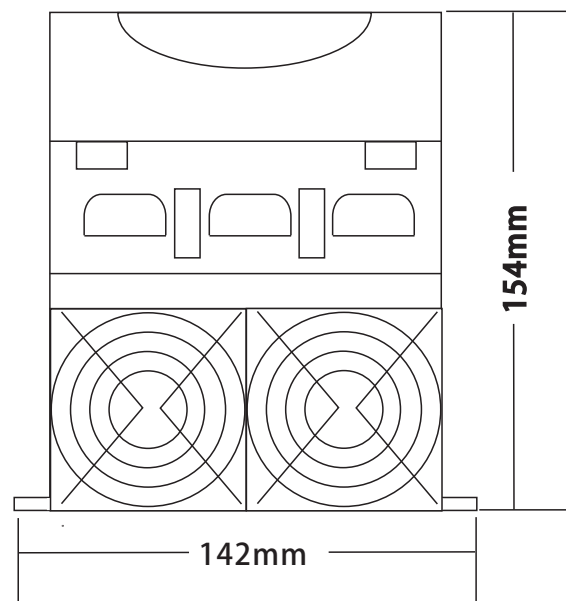
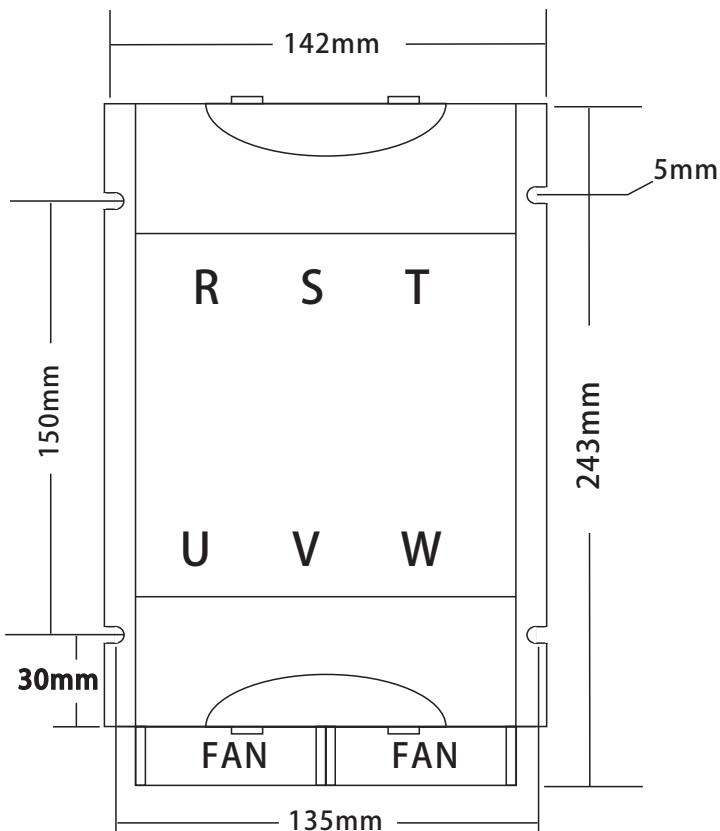
### Standards

IEC6015-2, EN61000-6-4, EN61000-6-2
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Dimensions

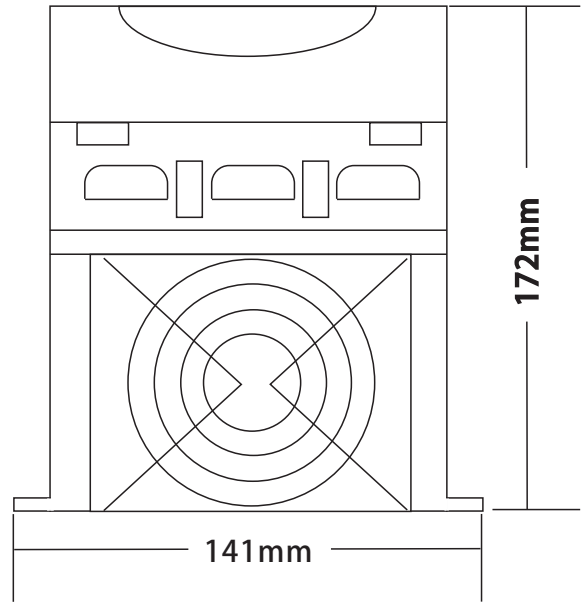
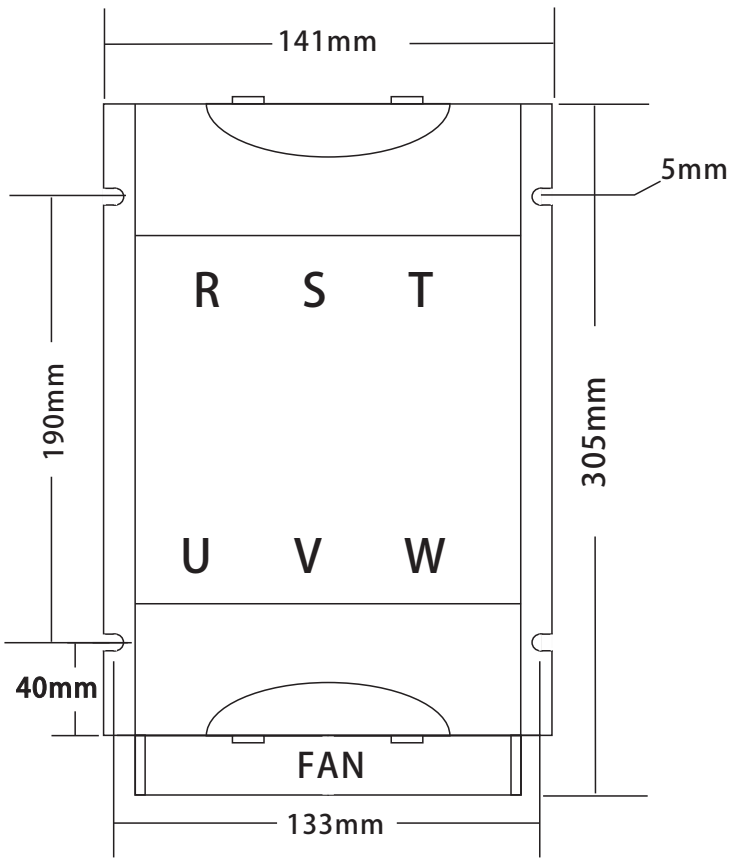


P.1

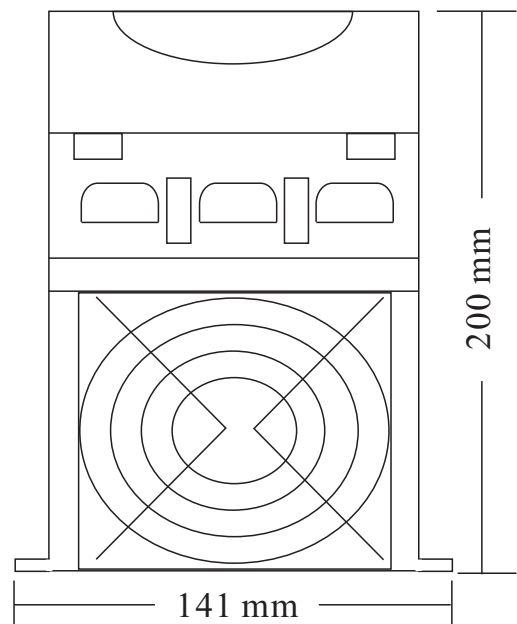
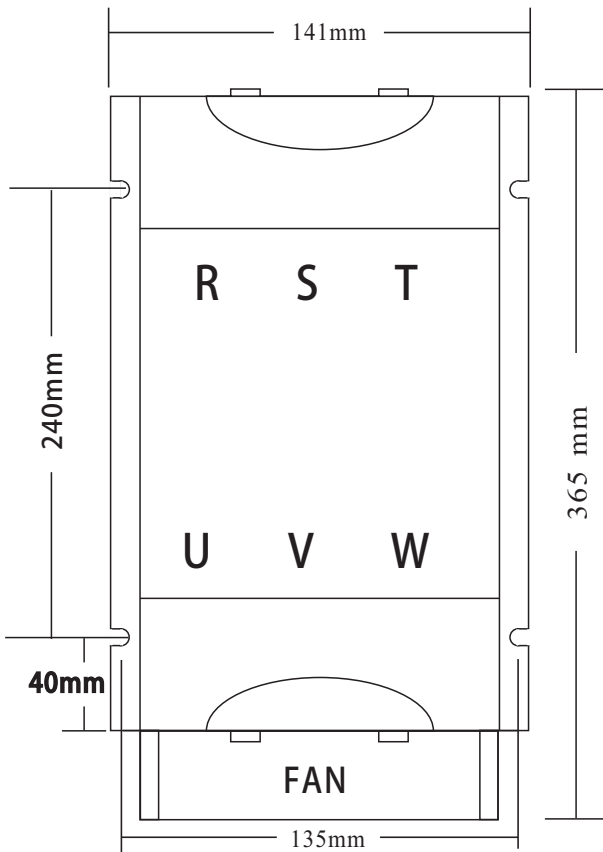


P.2

**Dimensions**

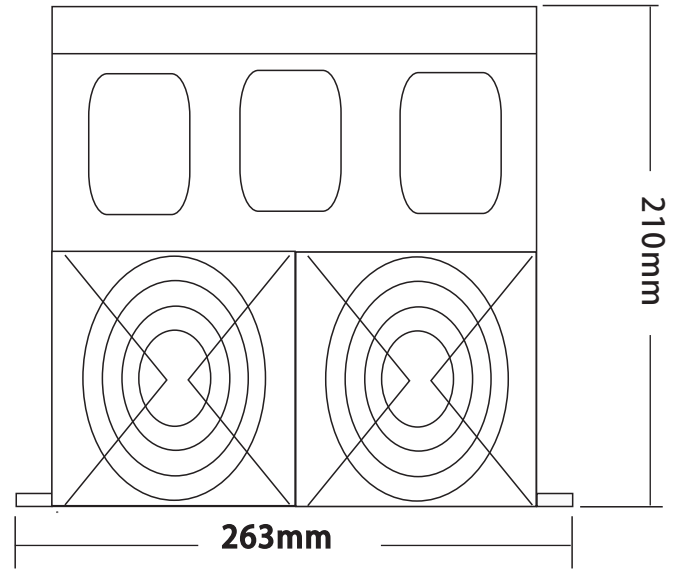
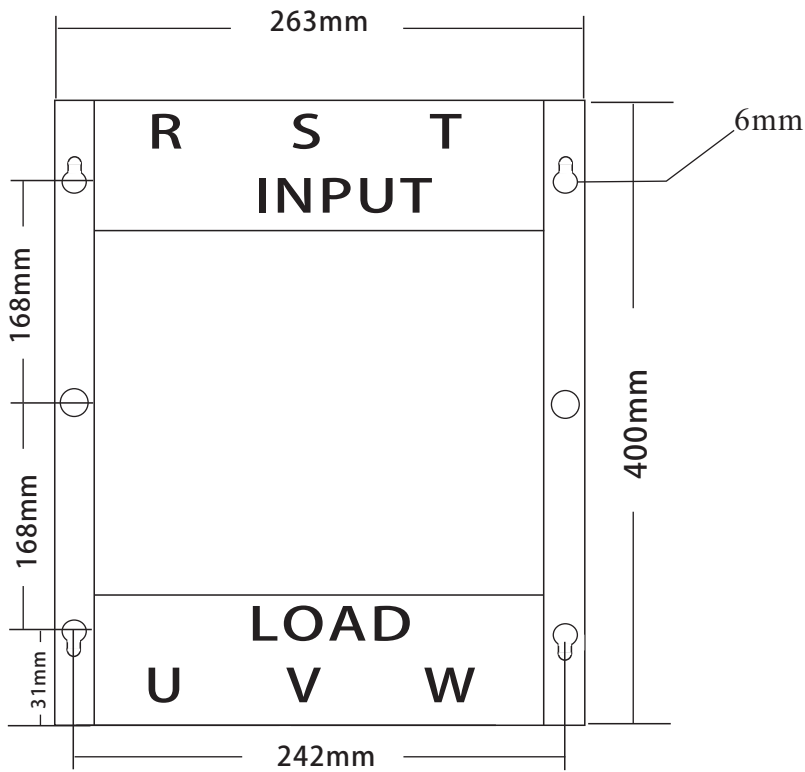


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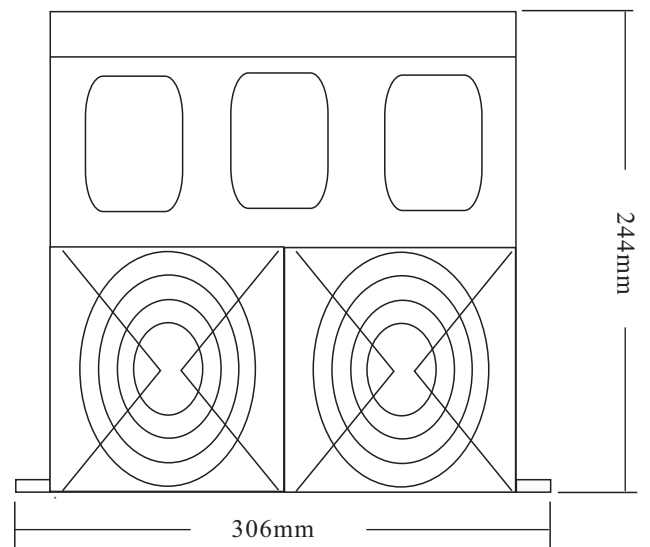
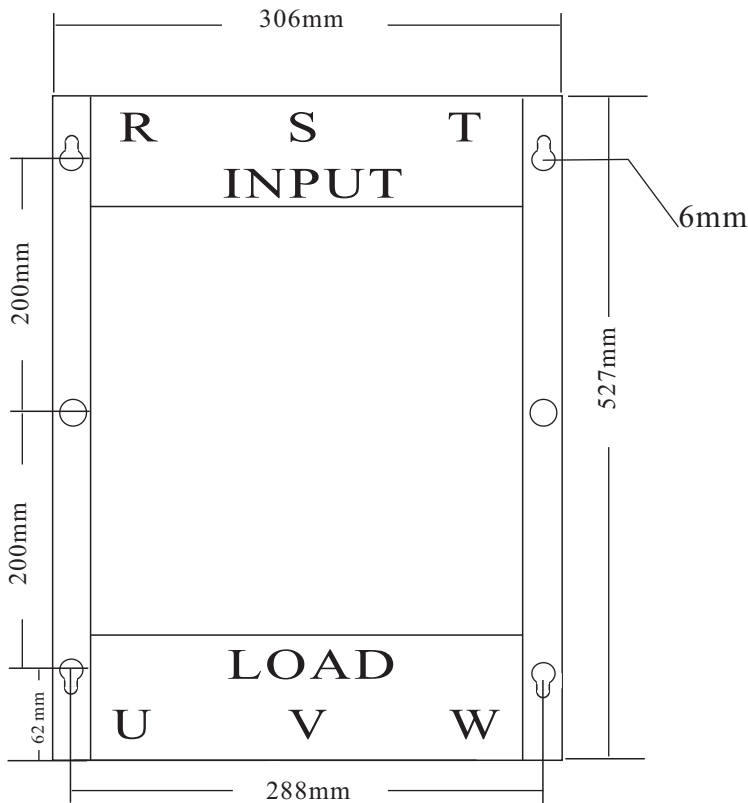


**P.4**

**Dimensions**



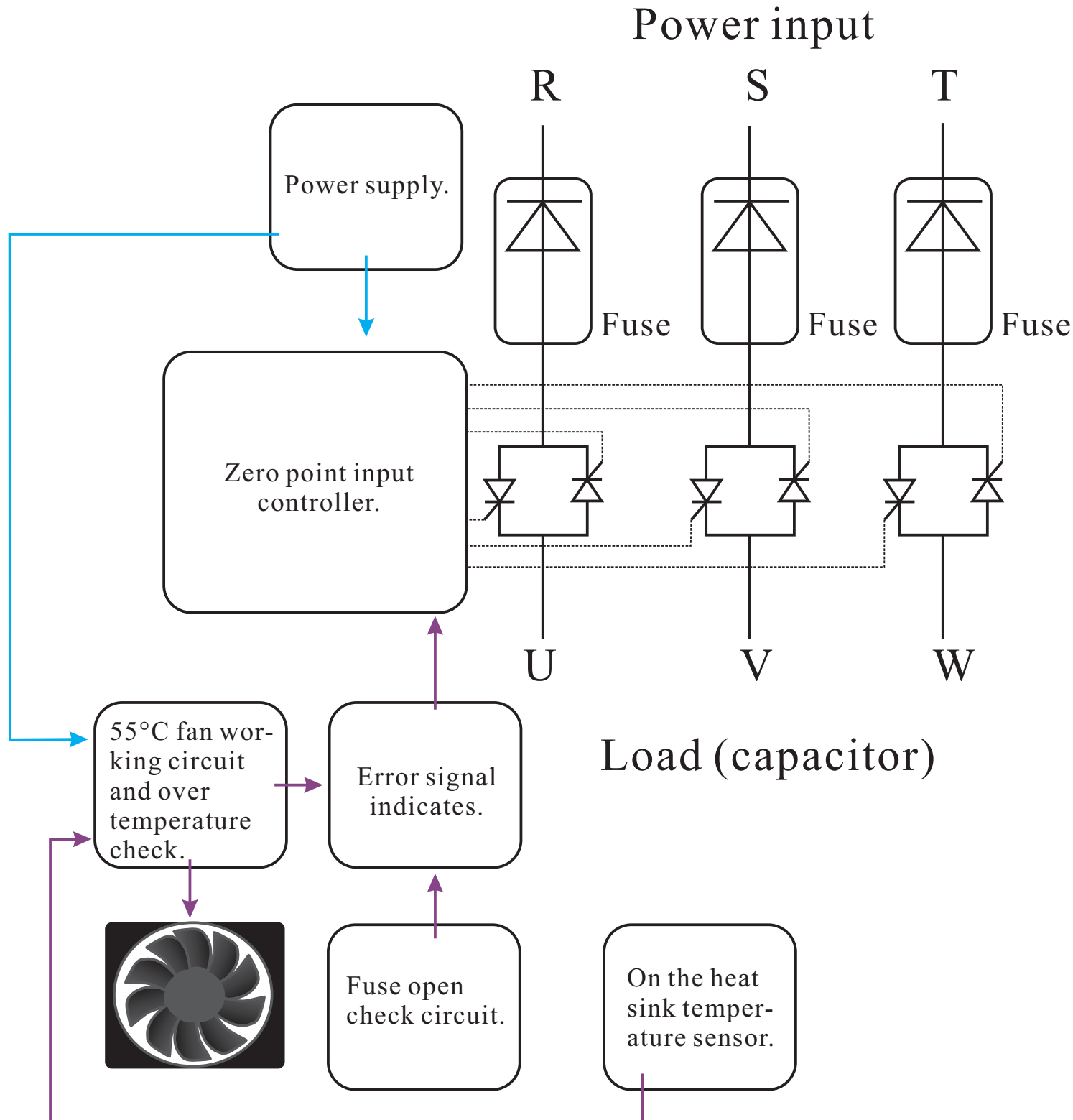
**P.5**



**P.6**



**Functional block Diagram**





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