

## CJAF SERIES



### DESCRIPTION

#### Application

JINPEI CJAF type intelligent integrated low-voltage filtering capacitor is designed for situations where the power grids have certain harmonic content, but the common type power capacitor is failed to run normally, its main characteristics as follows:

- 1.High quality type low-voltage capacitor, oil-free design, high safety;
- 2.Adoption of no-surge switching switch, with advanced technology, stable and reliable performances;
- 3.Adoption of special technology and process,effectively suppress high-order harmonic and surge,has obvious efficiency in suppressing harmonic of order 3, 5, 7, 9 and above;
- 4.Modular structure, flexible combination, convenient capacity expansion, simple installation, convenient for maintenance;
- 5.Intelligent network, 485 communication interface,can switch in backstage computer, to carry out integrated management of distribution;
- 6.Adoption of decentralized control mode, 200,000 times of fault-free switching, with high reliability;
- 7.Humanized human-machine interface, simple operation, convenient maintenance, it is convenient for fault shooting on site;
- 8.It is equipped with SH explosion-proof device and temperature control device inside, which improves the running reliability in severe harmonic locations;
- 9.Outstanding energy-saving efficiency, it effectively increases the power factor, reduces electric power consumption and improves the electric energy quality.

ZMZ-J type intelligent integrated low-voltage filtering capacitor is mainly applied to locations where the harmonic current is 40% below (such as frequency converter, and other equipment), it not only meets the requirements of reactive compensation and improving power factor, but also eliminates influence of high -order harmonic to the system, improves the electricity quality.

### Product Function

#### Filtering

It effectively suppresses high-order harmonic and surge, forms low-resistance channel for high-order harmonic. It absorbs and releases the harmonic, eliminates influence of high-order harmonic to the capacitor, protects circuits and capacitors from overload, prevents capacitors from superheating, insulating medium from aging, avoids reduction of self healing performance, or reduction of service life.

#### No-surge switching

Matched with special capacitor switching switch, no switching surge.

#### Split-phase compensation

Capacitor of each phase of separate-phase compensation type product can be switched separately, which improves the reactive compensating accuracy, enables the three-phase reactive unbalance to be well compensated.

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### Measurement

Measurement of distribution voltage, current, reactive power, power factor; automatic measurement and correction of CT phase and change; measurement of three-phase current and inside temperature of each capacitor.

### Protection

Quick current switching and over-current protection of circuit; over-voltage and under-voltage protection of capacitor; over-temperature, open-phase and three-phase unbalance protection of capacitor, when the temperature of capacitor exceed  $65^{\circ}\text{C}$ , the whole machine of capacitor would exit operation, which improves its service life, and guarantees safety running of system.

### Signal

Switching state, over, under and compensation state, over and under-voltage state signals; protection operation type and self-diagnose fault type signals.

### Communication

Adoption of RS-485 communication coupling between capacitor and controller, which is convenient for uploading of mass of sampling data as well as information exchanging with external monitor terminal, forms system work.

### Online

Functions of wire network communication and radio network communication.

### Intelligent network control

It is able to detect and track the reactive variation of system automatically, and switch in capacitor bank automatically. Carry out switching circularly for capacitors with same capacitance, and carry out switching according to the vacancy for capacitors with different capacitance. The capacitor that is switched in earlier should exit first, that exits earlier should be switched in first; capacitor whose running temperature is lower should be switched in first, whose running temperature is higher should exit first; when the compensation situation is stable, the capacitors should be switched in circularly every fifteen minutes, avoid long time running of any one capacitor.

### Self-diagnose of faults

Intelligent control element of capacitor will carry out self-diagnose to the running parameters of the body, once there is self-inspection fault, the whole machine responses quickly and exit running.

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### Main Technical Parameters

#### Ambient conditions

Ambient temperature:  $-25\sim 55^{\circ}\text{C}$ ;  
 Relative temperature:  $40^{\circ}\text{C}$ ,  $20\sim 90\%$ ;  
 Altitude:  $\leq 2000\text{m}$ .

#### Power supply conditions

Rated voltage:  $-220\text{V}/\sim 380\text{V}$ ;  
 Voltage deviation:  $\pm 20\%$ ;  
 Voltage waveform: sine wave, total distortion rate not exceed  $7\%$ ;  
 Rated frequency:  $50\text{Hz}\pm 5\%$ ;  
 Power consumption:  $< 2\text{W}$ .

#### Electrical safety

Electrical clearance, creepage distance, insulation strength, safety protection, short-circuit strength, sampling and control circuit protection should all be in conformity with the corresponding clauses of standard DL/T842-2003 Ordering specification for low-voltage shunt capacitor installation.

#### Measurement error

Voltage:  $\leq 0.5\%$  (within  $80\sim 120\%$  of rated voltage);  
 Current:  $\leq 1\%$  (within  $5\sim 20\%$  of rated current),  
 Power factor:  $\pm 1.5\%$ ;  
 Temperature:  $\pm 1^{\circ}\text{C}$ .  
 Protection error  
 Voltage:  $\leq 0.5\%$ ;  
 Current:  $\leq 1\%$ ;  
 Temperature:  $\pm 1^{\circ}\text{C}$ .  
 Time:  $\pm 0.01\text{s}$ .

#### Reactive compensation parameters

Switching interval of capacitor:  $> 10\text{s}$  ( $1\text{s}\sim 10\text{s}$  customized);  
 Reactive capacity: common compensation  $\leq 40\text{kvar}$ ,  
 separate compensation  $\leq 20\text{kvar}$ ;  
 Online quantity:  $\leq 120\text{pcs}$ .

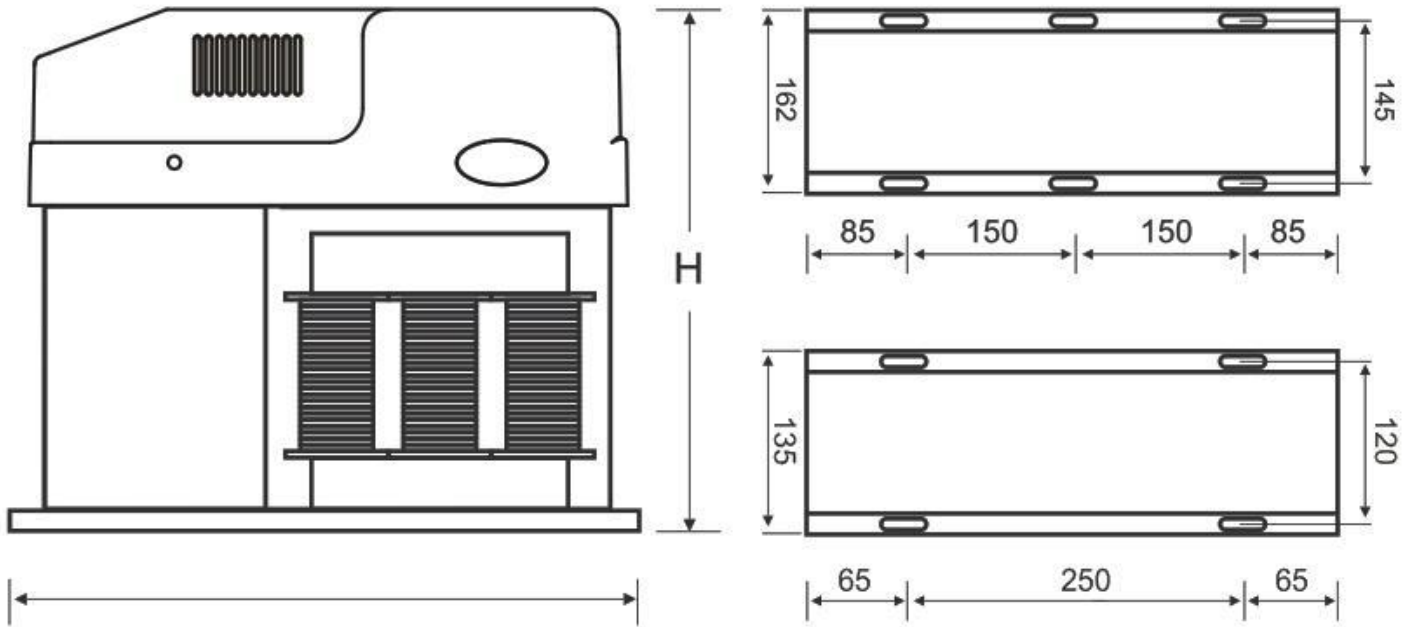
#### Reliability

Control accuracy:  $100\%$ ;  
 Permissible switching times:  $100,000$  times;  
 Attenuation rate of running time of capacitor capacity:  $\leq 1\%$ /year;  
 Attenuation rate of switching of capacitor capacity:  $\leq 0.1\%$ /ten thousand times;  
 Annual fault rate:  $\leq 1\%$ .

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External And Installation Size



Model		Size
Three Phase compensation	5kVar	380×135×310
	10kVar	
	15kVar	
	20kVar	470×162×410
	25kVar	
	30 kVar	
	35 kVar	
40 kVar		
Split-Phase compensation	5 kVar	380×135×310
	15 kVar	470×162×410
	20 kVar	
	30 kVar	