


JKW7C series

Intelligent reactive power automatic
Compensation controller

OPERATION INSTRUCTION

Standard :JB/T 9663-2013

CNC Deliver
PowerFor Better Life

-  Before installing and using this product,
please read this manual carefully and pay
more attention to safety.

1.General

This automatic reactive power compensation controller, It is suitable for automatic regulation of capacitor compensation device in low voltage distribution system (hereinafter referred to as controller),

It makes the power factor reach the user's predetermined state, improves the utilization efficiency of the power transformer, reduces the line loss, and improves the voltage value of the power supply, so as to improve the economic and social benefits.

Conditions of use

1. The altitude is not higher than 2500 meters.
2. Ambient temperature - 25 °C ~ + 50 °C.
3. The air humidity is not more than 50% at 40 °C and 90% at 20 °C.
4. There is no corrosive gas, conductive dust and flammable and explosive media in the surrounding environment.
5. There is no violent vibration at the installation site.

2.Type designation



3.Functional features

1. Power factor + reactive power is used to calculate capacitor switching, and the compensation accuracy is high.
2. The power factor measurement accuracy is high and the display range is wide.
3. Automatic identification of current polarity makes wiring more convenient.
4. With power factor, system voltage, system current, active power, reactive power, grid frequency display.
5. The interface is friendly and easy to operate.
6. All kinds of control parameters are digital adjustable, intuitive and easy to use.
7. It has two working modes: automatic operation and manual operation.
8. It has overvoltage and undervoltage protection functions.
9. With power failure protection function, data will not be lost.
10. The input impedance of current signal is low $\leq 0.01\Omega$

4.Technical data

1. Rated working voltage AC 220V 45-65hz
2. Rated working current AC 0-5A 45-65hz
3. Output contact capacity AC 220 V 5A
4. Display power factor lag 0.001 -ead 0.001
5. Measurement of reactive power 0-9999kvar
6. Sensitivity 50 Ma
7. Protection class enclosure Ip40

5.The advantages of this controller




1. The controller combines power factor and reactive power, which not only retains the simple operation of power factor mode, but also solves the switching oscillation problem of power factor mode capacitor bank.
2. It is suitable for all three-phase balanced working environment, especially in the case of light load and large capacitance.
3. The frequency is calculated first and then the power grid parameters are calculated, which avoids the inaccurate detection of power factor in harmonic situation.
4. It can automatically identify the current polarity to avoid the phenomenon that the current signal line needs to be replaced after the factory debugging.
5. Through the efforts of our senior engineers, we have solved the problems of automatic identification of current polarity and incorrect switching of capacitors when the power factor of multiple controllers is below 0.3.

6.Commissioning

1. Warning: users must follow the following debugging steps during debugging.
2. According to the requirements of the wiring diagram, the compensation device should be assembled, and a detailed inspection should be carried out to eliminate the errors that will bring serious safety hazards.

3. When the compensation device is switched on, the controller enters the automatic operation state.
4. The transformation ratio of input field signal current transformer is shown in menu operation.
5. Input the minimum capacitor bank capacity, see menu operation for details.
6. Operate the "menu" key to make the manual operation indicator light on. As a means of debugging the compensation device, manual operation can be used to check whether the wiring is correct. Operate the increase key to put in a capacitor bank and the decrease key to cut off a capacitor group.
7. Note: the output terminal corresponding to zero capacitor value cannot be switched. There can be no current signal for the above operation.
8. In order to enable the controller to switch the capacitor bank automatically, there must be a current signal lagging behind the voltage signal, and the system voltage should not be higher than the over-voltage protection value or lower than the under voltage protection value.

7.Key function

Name	Symbpl	Content
Set key		Main Settings, submenu selection Note: Press and hold the menu key for 2 seconds to enter the parameter preset menu, short press to modify the automatic manual operation
Increasing key		Add data when preset parameters. Input capacitor bank during manual operation. Press the button to view power parameters during automatic operation
Decrement key		Reduce data when preset parameters, remove capacitor bank during manua operation, and press the button to view power parameters during automatic operation

8.Menu operation

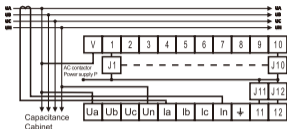
1. Parameter adjustment steps in power factor control mode (control parameters) Press and hold the "Set" key for 2 seconds, and the parameter light in the control parameter column is on. Note: Default is power factor control mode, light is OFF (Light ON is reactive power control mode)

The selection of preset parameters	Argument	Parameter range	Reference parameter
Press and hold the "Set" key. The input factor lights up	Input factor	Lag 0.69-Lead 0.70	Lag 0.96
Press the "Set" key to turn off the factor light	Excision factor	Lag 0.71-lead 0.70	1
Press the "Set" key to turn on the delay light	input delay	0.5-250 seconds	30 seconds
Press the Set key to turn off the timeout light	Excision delay	0.5-250 seconds	Five seconds
Press the Set key. The overvoltage threshold is on	Overvoltage threshold	220-280V (or 380-480V)	240V (430V)
Press Set. The distortion threshold is on	Distortion threshold	3.0-50-0 f	5
Press the "Set" key. The output loop light is on	Output loop	Routes 1-12	Routes 4-12 depend on the model
Press the Set key to light up the reactive mode	Reactive mode	ON(on)/0F(off)	ON
Press the "Set" button for another 3 seconds	The preset parameters are stored and enter the automatic running state		

2. This section describes how to adjust parameters in reactive power control mode. Note: The reactive mode is ON, To enable the reactive power factor control mode (ON for reactive power and Of for of the CT ratio of the total cabinet and the capacitor bank capacity of each branch need to be set in the reactive mode.

The selection of preset parameters	Argument	Parameterrange	Reference parameter
Press and hold the "set" key. The input factor lights up	Input factor	Lag 0.69-Lead 0.70	Lag 0.96
Press the "Set" key to turn off the factor light	Excision factor	Lag 0.71-lead 0.70	1
Press the "Set" key to turn on the delay light	Input delay	0.5-250 seconds	30 seconds
Press the Set key to turn off the timeout light	Excision delay	0.5-250 seconds	Five seconds
Press the Set key.The overvoltage threshold is on	Overvoltage threshold	220-280V (or380-480V)	240V (430V)
Press Set.The distortion threshold is on	Distortion threshold	3.0-50-0 f	5
Press the "Set" key. The output loop light is on	Output loop	Routes 1-12	Routes 4-12 depend on the mode
Press the Set key to light up the reactive mode	Reactive mode	ON(on)/OF(off)	on
Press the "Set" key. The CT light in the main cabinet is on	CT variable ratio preset	50-5000 Note 1	Actual configuration
Press the Set key. The capacitor capacity is on	Capacitance presetting	Capacity of each loop 0-1000Kvar Note 2	Actual configuration
Press the "Set" button for another 3 seconds	The preset parameters are stored and enter the automatic running state		

9.Wiring diagram



Ub,Uc Voltage signal input

Ia,In Current signal input

V Control Output Sub-Common

If the contactor is 380V,the P-point connects to B or C phase:

If the contactor is 220V,the P-point connects to N-phase

Voltage : 220V Current : ≤ 5A

Provision : _____ circuit No. : _____



CERTIFICATE

Product Model: JKW7C series

Standard: JB/T 9663-2013

Inspector: CNC 001

Production date: Printed on the product
or package

This product is qualified according
to the delivery inspection

CNC ELECTRIC

Tel:0086-577-61989999 Fax:0086-577-61891122

www.cncele.com E-mail: cncele@cncele.com

CNC

JKW7C series