

TBB0.4 系列智能 无功补偿装置(柜)

TBB0.4 Series intelligent Reactive power Compensation Installation

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概述 *General Description*

九康牌TBB0.4系列智能无功补偿装置是我公司参照国内外同类产品的结构、特性，自行研制开发的新一代节电产品，引入微电脑控制系统，对无功量实行智能化自动跟踪补偿。

Jiukang™ TBB0.4 Series Intelligent Reactive Power Compensation Installation is a revolutionary electricity saving product developed by ourselves on the basis of the reference to the structure of opponents from the world. It is equipped with microcomputer control system, which can automatically compensate the reactive component through intellectualized track.

该装置的基本原理 *Basic Principles of the Installation*

由无功功率自动补偿控制器对电网的无功电流进行采样，由该控制器内的微电脑对采样电流进行分析运算后，将控制信号送到输出继电器，输出继电器再控制补偿柜中CJ19型切换电容器专用接触器，从而控制BSMJ0.4系列自愈式低压并联电容器的投切，达到提高电网功率因数，降低线路损耗，改善电压质量的目的。

The automatic reactive-power compensation controller samples the reactive current of the power line. Then the microcomputer in the controller analyzes the sampled current and transmits the control signal to the output relay, which controls the special contactor of CJ19 type switching capacitor in the compensation cabinet, so as to control the switching of BSMJ0.4 serial self-healing type low voltage shunt capacitor and reduce the line loss and improve voltage quality.

主要特点 *Main Features*

- 1、体积小，便于安装维修。专用于额定电压380V，容量50~1000KVA的三相变压器的无功补偿。
- 2、采用微电脑控制，功能齐全，性能可靠，补偿方式自动，LED数字显示电网功率因素，显示范围：滞后(0.00~0.99)，超前(0.00~0.99)。
- 3、通过面板键盘三个功能设定键能完成数字显示Cos ϕ 设定值、延时设定值、过电压设定值的设定，简明的人机对话，使操作更方便。

- 4、有超前、滞后过电压LED指示灯指示，LED提示编程输入。
- 5、使用安全、具有过电压保护功能；当电网电压超过本机过电压设定值(出厂时已调整到420V，用户可根据需要在400~450V范围内重新设定时，数字Cos ϕ 表自动转换显示为电网当前的电压值，同时自动快速逐级切除已投入的电容器。一旦电压恢复正常，本装置会自动恢复工作。
- 6、抗干扰能力强，能抵御从电网直接输入的幅值2000V的干扰脉冲，高于国家专业标准。

- 1、Small size facilitates installation and maintenance of equipment. It is designed specially for reactive compensation of three-phase transformer with rated voltage 380V and capacity 50~1000KVA.
- 2、Controlled by microcomputer and adopting automatic compensation mode, it has complete functions and reliable performance. LED digital display shows the power factor of power line, ranging from lagging (0.00~0.99) to leading (0.00~0.99).
- 3、The set values of Cos ϕ , delay and over-voltage can be set through three functional set keys on the panel keyboard and shown on the digital display. Concise man-machine dialogue facilitates the operation.
- 4、With pilot lamp indicating the lagging, leading to operate and over-voltage, LED hints program input.
- 5、With over-voltage protection function, it is safe in operation. (The over-voltage set value has been set at 420V in factory. The users can reset it between 400V and 450V according to their own needs.) When power line voltage exceeds the set value, Cos ϕ digital meter is changed automatically and shows the present voltage value of power line. At the same time, it switches off the input capacitors automatically, quickly and step by step. Once the voltage regains normally, This installation will work automatically again.
- 6、Having strong anti-jamming capability, it can resist interference pulse of 2000V input directly through power line. The index exceeds national special standard.

表1. TBB0.4系列智能无功补偿装置规格及外形尺寸表

Table 1. The Specification and External Dimensions Table of TBB0.4 Series. Intelligent Reactive Power compensation installation.

型号规格 Model	额定容量 (kvar) Rated output	电容器配置 Capacitors	产品尺寸 高 宽 厚 (mm) dimensions H W T		
			H	W	T
TBB0.4-22.5-3	22.5	3路 Circuits 7.5kvar	1500	500	370
TBB0.4-36-3	36	3路 Circuits 12kvar	1500	500	370
TBB0.4-40-3	40	4路 Circuits 10kvar	1500	500	370
TBB0.4-60-3	60	6路 Circuits 10kvar	1700	700	370
TBB0.4-72-3	72	6路 Circuits 12kvar	1700	700	370
TBB0.4-90-3	90	6路 Circuits 15kvar	1700	700	370
TBB0.4-120-3	120	8路 Circuits 15kvar	1600	600	450
TBB0.4-140-3	140	10路 Circuits 14kvar	1600	600	450
TBB0.4-180-3	180	10路 Circuits 18kvar	1600	600	450
TBB0.4-220-3	220	10路 Circuits 22kvar	1700	800	450
TBB0.4-300-3	300	10路 Circuits 30kvar	2200	800	600
TBB0.4-360-3	360	12路 Circuits 30kvar	2200	1000	600

注：可根据用户需要制造其他规格的补偿装置。

Note: The compensation installation of other specifications can be made according to the requirements from users.

主要技术指标 Main Technical Indexes

- 1、使用条件：海拔2000米以下，环境温度-25℃~+50℃。温度20℃时，相对湿度≤90%；40℃时，相对湿度≤50%，安装倾斜度≤5°。
- 2、额定电压：400V，50Hz。
- 3、额定容量：20kvar~360kvar(见表1)。
- 4、使用电压范围：(0.85~1.10)倍额定电压。
- 5、最大允许过电流：1.3倍额定电流。
- 6、控制路数：3路、4路、8路、10路、12路。
- 7、投切时间：5~90s/次，连续数字式可调。出厂时已设定在30s/次。
- 8、工作方式：自动，连续运行。电容器为等容量循环投切方式；先投先切，后投后切、可延长电容器使用寿命。
- 9、负载在5~100%间变化时， $\cos\phi$ 值保持在0.95以上。
- 10、本装置为户内使用，外壳为落地式结构。
- 11、符合JB/T7113-1993《低压并联电容器装置》。

1、Service Conditions:

Altitude: under 2000m

Ambient temperature: -25℃~+50℃

Relative humidity: ≤90% at 25℃; ≤50% at 40℃

Declining degree of installation: ≤5

2、**Rated voltage:** 400V, 50Hz

3、**Rated Output:** 20kvar~360kvar see table 1)

4、**Range of Working Voltage:** 0.85~1.10 times rated voltage

5、**Max. Permissible current:** 1.3 times rated current

6、**Number of Circuits Controlled:** 3, 4, 8, 10, 12 channels

7、Switching Time 5~90s per time, continual digit type and adjustable. It has been set at 30s per time in factory.

8、**Working Way:** Automatic and continual operation. The capacitor applies the switching way of constant volume cycle: First throw in and first throw out, later throw in and later throw out, which can prolong the service life of the capacitor.

9、 $\cos\phi$ value retains above 0.95 when loan changes within 5~100%.

10、The its shell is designed wall build-up type.

11、Accord with JB/T7113-1993 Low-Voltage shunt Capacitor Installation.