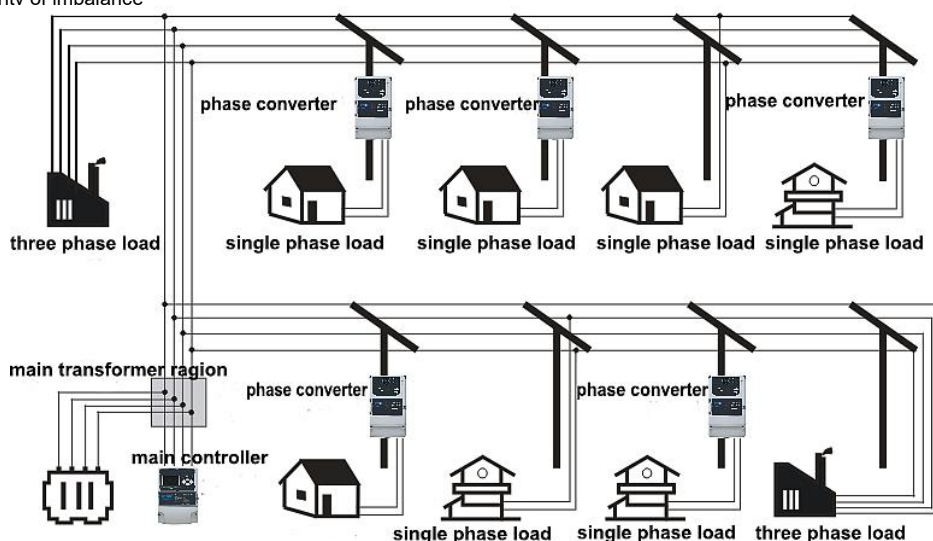




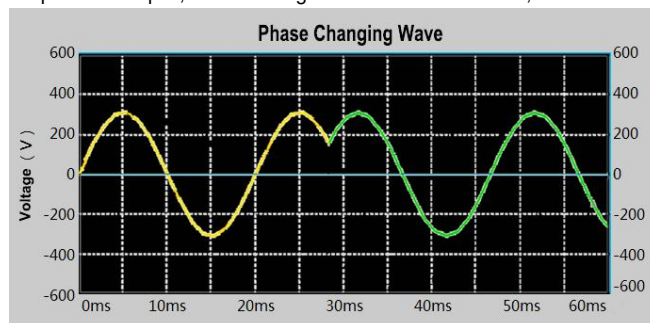
System Composition

Phase change switch type three - phase unbalance correction device compose by the main controller and phase converter. The main controller is responsible for collecting the real-time load data of the transformer area; analyze the load voltage and current of each phase converter; Form and send command to the phase converter. The phase converter receives and executes command from the main controller. The main controller and the phase converter wireless communicate by 230MHz. One main controller and several phase converter can be configured according to the transformer region capacity and the severity of imbalance



Product Feature

- Equal voltage 0ms seamless phase change technology, phase changing will not interrupt the power supply.** Phase changing time is 0ms, precise and controllable. The phase changing process is completed by the power electronic device, no mechanical contact and will not generate ARC. After phase change, the permanent magnet switch keep a steady state without loss.
- There is no inrush current in phase changing process, stable and reliable.** Since the commutation time is 0ms, the phase jump of 120° is only at the moment when the voltage of the two phases is equal, which belongs to natural commutation, so there is no voltage mutation or inrush current.



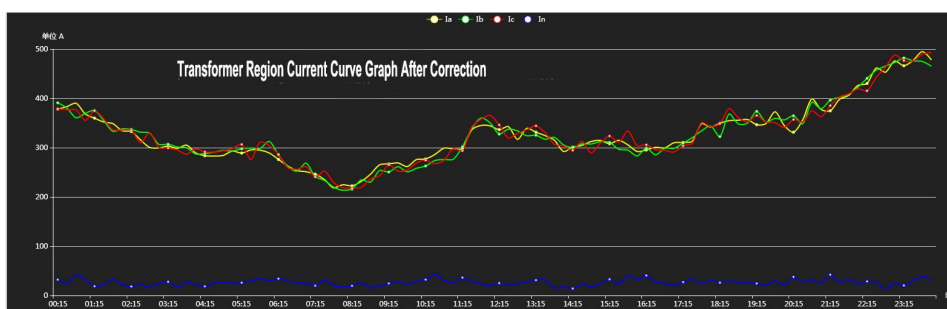
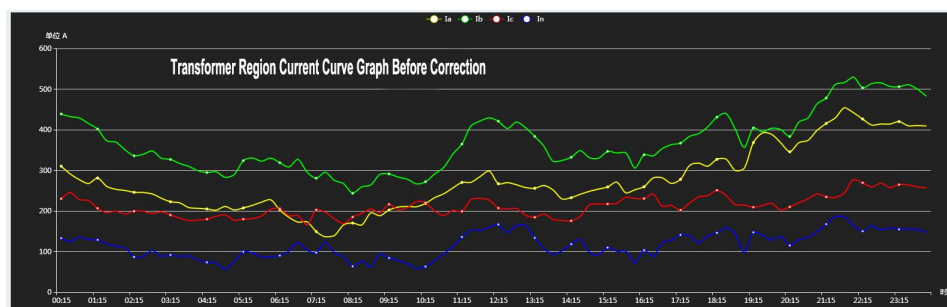
- Precise positioning phase converter ensures the balance of each branch of the distribution network hop by hop.** The unique hop by hop voltage drop synthesis algorithm, priority to adjusting the phase converter closest to the extreme value of line unbalance degree, thus ensuring the optimal balance degree of each part of the line, reducing the neutral line current more effectively and improving the terminal supply voltage.
- No adverse effects on all kinds of electrical equipment.** Equal voltage 0ms seamless phase changing technology will not cause power supply interruption and voltage sag, and will not influence the user's electricity consumption. Stable and reliable phase changing for inductive, capacitive and resistive load.
- Flexible function, parametric design.** It can setting phase changing condition. The user can limit the phase changing and load adjustment according to the demand, such as: load rate, unbalance degree, neutral current, etc., only when the setting conditions are met, the system will automatically phase changing and load adjustment. Overload capacity of phase changing switch can be set. In case of overload, the phase changing switch will cut off the load and enter the latching protection to prevent overload side short circuit or overload to damage the equipment. The limit of overload protection can be set by the user. The main controller is equipped with a variety of communication mode for easy management and monitoring. The main controller and the phase converter switch adopt 230MHz wireless communication, and at the same time, RS485, GPRS and other communication interfaces are

optional, so as to facilitate the exchange of data with other devices and systems. Transformer region hierarchical management, easy to large-scale deployment. Transformer region management according to the ownership, transformer region code, phase converter switch number top-down system management, in the large-scale deployment can clear and rapid positioning. Product life management to ensure reliable operation. Each phase converter switch is guaranteed to have no less than 200,000 times of phase changing. When the number of phase changing exceeds 200,000 times, the commutation switch will not be phase changed any more. The product will be sent back to the company for replace component and can be put into use again.

Technology Specifications

Parameter Item	Phase Converter ETCR5500-PEX	Main Controller ETCR5500-BMC
Phase Change Time	0 ms	
Phase Change Mode	On load equal voltage 0ms seamless phase changing	
Phase Change Life	No less than 100,000 times	
Communication Mode	230MHz wireless communication, RS485	230MHz wireless communication; GPRS, RS485
Communication Distance	No obstacles≤4000m; Between buildings≤1000m	No obstacles≤4000m; between building≤1000m
Wire Connection Mode	three-phase 4-wire system	three-phase four-wire system
Interlocked Manner	Hardware dropout voltage, signal differential interlock; Software check and interlock	
Adjustment Mode		Real time current balance , power balance
Rated Voltage	Between Phase 380V/ phase zero 220V	Between phase 380V/phase zero 220V
Rated Current	60A/120A (optional)	<0.05A; sampling CT: 5A
Rated Frequency	50Hz, allowable deviation: ±5%	50Hz, allowable deviation: ±5%
Insulation Resistance	≥100MΩ	≥100MΩ
Overload Capacity	2 times rated current: 1min	2 times rated current: 1min
Withstand Voltage	Power frequency 2.5kV、impulse 5kV	power frequency 2.5kV、impulse 5kV
Power Consumption	≤2.5W	≤2.5W
Installation	Column / wall	column / wall
Operational Environment	Indoor/ outdoor, -40℃~85℃	Indoor/ outdoor, -40℃~85℃
Altitude	≤2000M	≤2000M
Weight	1560g	1590g
Dimension	286mm*174mm*87mm	228mm*160mm*80mm

Operation Example



Test Report



检 验 报 告

No: JW181685



样品名称 换相开关式三相负荷不平衡自动调节装置
样品型号 ETCR5500
委托单位 广州市铭泰电子科技有限公司
制造商 广州市铭泰电子科技有限公司
签发日期 2018年09月12日

许昌开普检测研究院股份有限公司
国家继电保护及自动化设备质量监督检验中心



Field Installation

