

EXFK-H
Intelligent networking combination switch



Product Overview

Our networking combination switch series was developed based on the intelligent combination switch and controllable silicon regulator by virtue of intelligent microcomputer technology and the technology for controlled silicon and magnetic latching relay monitoring. The product supports zero passing switching of controllable silicone when the combination switch is connected/disconnected. The contact switch consumes no power during connection period. No harmonic wave is injected when the circuit breaker is switched on. Technologies such as voltage fault open-phase protection technology, power supply voltage open-phase protection technology, self-diagnosis fault protection technology, no-load protection technology, programmable overcurrent protection technology and programmable temperature protection technology have also been applied to the product on the basis of the above. Data exchange is realized by networking of RS-485 communication technology and controller terminal, as so to feed back the running date in real time. With the functions above, the lifespan of field data for capacitor and intelligent combination switch can be ensured. The product has reached the requirements for intelligent environmental energy-saving product, contributing to the reactive compensation industry.

Models

EXFK	- H	- 380V	45A
Intelligent low-voltage combination switch	Network overcurrent protection type	Interior connection method: 380V: Compensation of 3 phases 220V: Single-phase compensation of 3 phases	45: ≤20Kvar 55: ≤30Kvar 70: ≤40Kvar

EXTSC
High–power Thyristor Switched Capacitor



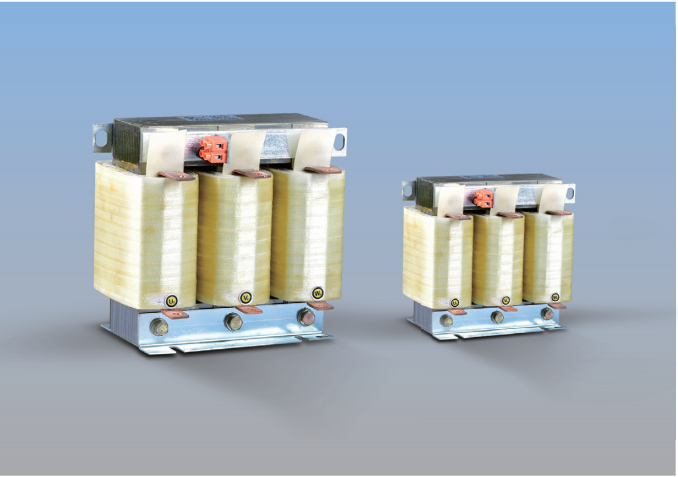
Product Overview

As a kind of common electric switching part, the large-power contactless switch is mainly used for switching capacitor to realize fast swithing of rate ratio device. In particular, it can be used on some sites with high requirements for fast load change and frequent fluctuations. As a kind of electronic switch with no mechanical contacts, the product could track the changes of load reactive current and switch power capacitor groups quickly by zero crossing form, without causing such phenomena as overvoltage and arc reignition. Featuring fast response speed, long service life and small maintenance workload, it supports frequent switching without any noise and can be used automatically at any voltage or state after cutting off capacitor. It also supports split-phase switching. It also supports overtemperature protection, alarm output and running indication.

Models

EXTSC		- 2	- 40
High-power Thyristor Switch		Compensation Wire: 2. Compensation of 3 phases 3. Single-phase compensation of 3 phases	Controlled capacity (Kvar)
Contactless switch	EXTSC-2-40	It can switch the capacitor group with the capacity of single group of 40 Kvar and below and is applicable to 3-phase compensation.	
Contactless switch	EXTSC-3-40	It can switch the capacitor whose total capacity of Phase A, B and C is 40 Kvar and below. It is applicable to single-phase compensation of 3 phases.	
Contactless switch	EXTSC-2-60	It can switch the capacitor group with the capacity of single group of 60 Kvar and below and is applicable to 3-phase compensation.	
Contactless switch	EXTSC-3-60	It can switch the capacitor whose total capacity of Phase A, B and C is 60 Kvar and below. It is applicable to single-phase compensation of 3 phases.	

EXRE
Serial reactor



Purpose

While compensating capacitive reactive power, the capacitor is generally affected by harmonic current, switch-on rush current and operation overvoltage, causing capacitance damage and reduction of power factor. To address the situation above, serial reactor is required in the front end of capacitor to inhibit and absorb harmonic wave, protect capacitor, avoid the influence of harmonic wave voltage and current, and impact voltage and current, improve the quality of electric power and system power factor, and extend the service life of capacitor.

Naming Rule of Product Model

EXRE	- 480	- 30	-7	-3
Serial reactor	Applicable capacitor voltage (V)	Applicable capacitor capacity (Kvar)	Reactance rate	Poles (3 means 3 phases; 1 means 1 phase; it is not marked sometimes)

EXCA
Low–voltage Parallel Self–healing Capacitor



Purpose

The EXCA series capacitor, which has the characteristics of low-voltage self-healing products and is made of high-quality base materials through the the most advanced manufacturing process, mainly applies to the 50HZ or 60HZ power system, in order to improve the power factor, reduce the active loss and improve the voltage quality. Fitted with one-time molding aluminum enclosure, the product is unlikely to have rusting and enjoys excellent cooling performance. Based on double electrical protection, i.e. unit sealing and auto disconnection of internal safety device in case of overvoltage, the product can realize safe and reliable running, and maintain good and stable electrical performance.

Naming Rule of Product Model

EXCA	-480	-30	-3
Parallel self-healing capacitor	Rated voltage (V)	Rated capacity (Kvar)	Pole number (3: 3 phases; 1: Single phase)

EXSVG
Static Var Generator



Advanced Technology
Make perfect power quality possible through development of FACTS
(flexible alternative current transmission systems)

As a new and integrated technology that combines integrated power electronic technology, micro programming and microelectronic technology and communication technology for controlling the AC power transmission, the FACTS (Flexible Alternative Current Transmission Systems) can replace the mechanical switch in traditional equipment of current AC system with the reliable, high-speed and high-power electronic components (such as thyristor and IGBT), to realize flexible and fast control of AC power transmission system, improve the reliability, controllability, operation performance and power quality of power transmission and distribution system, and save power significantly. The so-called "flexible control" is used for distinguishing the conventional "rigid control" in the original AC power grid. It is not just distinguished by the fact that the former mainly relies on electronic technology while the latter is mechanical or electromechanical technology. The more important importance is the rapidly, accuracy, continuity, flexibility and effectiveness of control actions.

Flexible AC power transmission device enjoys more obvious merits than traditional electrical equipment:

1. Power electronic switching technology is adopted, to avoid mechanical loss and greatly improve the reliability and flexibility of system;
2. Short response time (ms level), fast control, which can improve the transient stability;
3. The controlled parameters can be adjusted intermittently and continuously, which can promote the improvement of system dynamic stability;
4. The tide distribution of system can be changed quickly through fast and smooth adjustment, which has the advantages for improving the existing transmission capacity of network and preventing the trip due to chain reaction after an accident occurs;

Power quality product system of Hertzman flexible AC power transmission system

- Use "flexible" application in power quality management of power system, to finally realize the THDi 5%, PF 0.99 and 3-phase balanced and perfect power quality

Model naming

EXSVG	100	/4	4L	/R	L
Static Var Generator	400V capacity (Kvar): 030, 050, 100 480V capacity (Kvar): 065, 130, 195, 260 600V capacity (Kvar): 090, 180, 270, 360	4: 400V voltage grade 5: 480V voltage grade 6: 690V voltage grade	3L: 3-phase 3-wire system 4L: 3-phase 4-wire system	R: Rack type H: Wall-mounted type F: Full cabinet type	L: LCD M: Central monitoring

EXAPF
Active filter



Model naming

EXAPF	150	/4	4L	/R	L
Active filter	400V capacity(A): 025、035、050、060、100、150 480V capacity(A): 075、150、225、300 600Vcapacity(A): 075、150、225、300	4: 400V voltage grade 5: 480V voltage grade 6: 690V voltage grade	3L: 3-phase 3-wire system 4L: 3-phase 4-wire system	R: Rack type H: Wall-mounted type F: Full cabinet type	L: LCD E: LED M: Central monitoring

Technical Background

As the most advanced technology in the field of power quality, EXAPF has parallel connection to the low-voltage side of power grid, to fix the problem of current quality. Based on intelligent control, high efficiency, fast dynamic response, stable and reliable running status, it can fix the complex problem of power energy and make the perfect power energy possible.

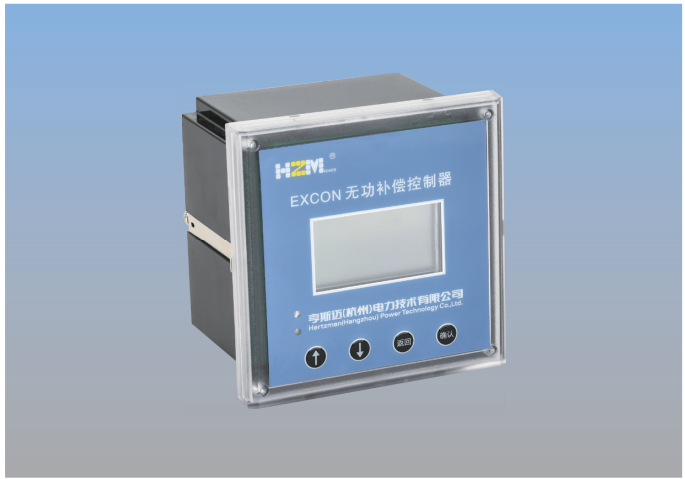
Benefits of improving power quality through harmonic governance

Enhance the power supply quality of enterprise equipment, improve the reliability of equipment running, reduce the economic losses due to equipment malfunction; reduce the heating of electric equipment, reduce insulation aging, improve the service life of equipment, and reduce the maintenance cost of equipment;
Reduce the resonance probability of compensating capacitor in power grid, improve the safety of power utilization. Meanwhile, reduce the influence from harmonic wave on system signal transmission and enhance the system reliability; reduce heating of equipment such as motor, and reduce the error of computer system data;
Reduce the electromagnetic interference generated by harmonic wave, guarantee the normal functioning of weak current system; conform to the requirements of national and local standards.

How It Works

The active filter can detect the load current in real time through the external current transformer CT, and extract the harmonic component of load current through calculation of internal DSP, and send PWM signal to internal IGBT, to control the inverter to generate a current, which equals to the load harmonic wave but has reverse direction, and inject it into power grid to make compensation to harmonic current and realize the filtering function.

EXCON-B
High-precision Reactive Compensation Controller



Product Overview

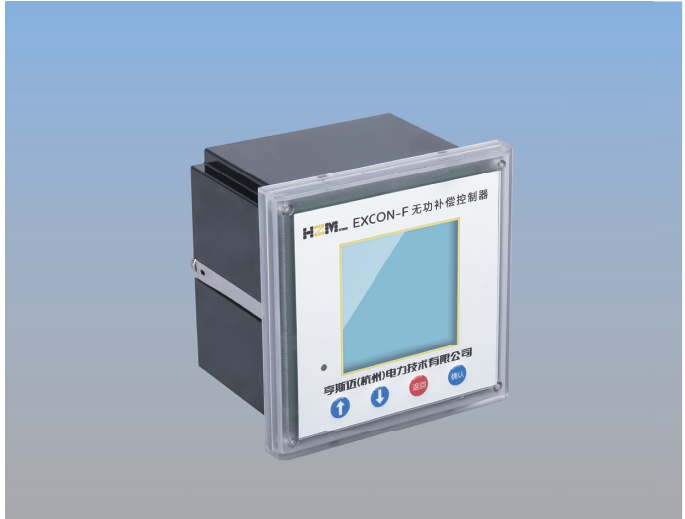
As the new generation of high-quality reactive compensation controller, EXCON-B low-voltage reactive compensation controller is powered by the latest PIC micro computer with the characteristics of strong function and anti-interference capacity, and fast computing speed. The product is manufactured using die bonding technique and several patented technologies with reliable quality. It can, once used together with parallel capacitor, control the automatic switching of compensation capacitor in order to improve the power factor, utilization efficiency of power transformer and voltage quality and reduce wire loss.

The product has passed the type test of the Quality Test Center for the Whole Set of Reactive Compensation Device of the Ministry of Electric Power Industry in one time. Its main performance has reached the most advanced level in domestic market and totally conforms to the industrial standard DL/T597-1996. The product has passed ISO 9001: 2000 quality system certification.

Models

EXCON	-B	-16	- C/F
Low-voltage reactive compensation controller	B means 3-phase compensation	means total output loop	C: Control contactor F: Control combination switch

EXCON-F
Split-phase Reactive Compensation Controller



Product Overview

As the new generation of high-quality reactive compensation controller, EXCON-F low-voltage reactive split-phase compensation controller is powered by the latest PIC micro computer with the characteristics of strong function and anti-interference capacity, and fast computing speed. Researched and developed on the basis of EXCON-B, it is a new generation of comprehensive product designed with 3-phase current and voltage of sampling and integrated with split-phase compensation function and intelligent power instrument. The product is manufactured using die bonding technique and several patented technologies with very reliable quality. It can, once used together with parallel capacitor, control the automatic switching of compensation capacitor in order to improve the power factor, utilization efficiency of power transformer and voltage quality and reduce wire loss. It can display the running data of power grid in real time, such as 3-phase current, voltage, power factor and harmonic wave, and display their instantaneous values respectively.

The product has passed the type test of the Quality Test Center for the Whole Set of Reactive Compensation Device of the Ministry of Electric Power Industry in one time. Its main performance has reached the most advanced level in domestic market and totally conforms to the industrial standard DL/T597-1996. The product has passed ISO 9001:2000 quality system certification.

Models

EXCON	- F	-16
Low-voltage reactive compensation controller	F means hybrid compensation	means total output loop



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Reactive Compensation Device
Selection Manual



EXVAR
Intelligent Power Capacitor



Product Overview

As a new generation of reactive compensation device developed and produced by the Company with independent IPRs, EXVAR intelligent power capacitor has passed the type test of the Reactive Compensation Test Center of the Ministry of Electric Power Industry. The product can provide various kinds of compensation schemes through different controls via its internal units such as intelligent measurement and control, monitoring of electric parameters, intelligent zero crossing switching module, protection module, multifunctional display of large LCD and 6 single-phase capacitors.

Also configured with advanced micro-processing technology hardware and software, including modern measurement and control, zero crossing switching, network communication and automation control, the product is a kind of intelligent, modular, standard and intensive low-voltage reactive automatic compensation device.

The product could measure all common electric parameters at the same time, such as 3-phase current, voltage, active and reactive power, power energy and harmonic wave. Furthermore, with communication and networking functions, it could constitute a real-time monitoring system of electrical energy quality.

The product can output 3-phase triangle and star connection types. It can be used either alone or together with other products of the same type to constitute a compensation system. The product can realize local, dispersion and central automatic compensation easily and satisfy the requirements of hybrid compensation at 3-phase imbalance scenarios. By eliminating the large and cumbersome structural form of traditional reactive compensation device, this new generation of low-voltage reactive compensation device could satisfy the higher requirements of modern power grid for reactive compensation with higher compensation effect, smaller volume, lower power consumption, more flexible use, closer distance to load and more convenient maintenance.1

Models

EXVAR	- C	G	F	1	/450	-20	.10
Intelligent Power Capacitor	Applied technologies: A: Long service life; C: Conventional type; T: Thyristor; L: Filter type TL: Filter type thyristor	Capacitance compensation mode of the 1st circuit: G: 3-phase compensation; F: Single-phase compensation; X: 3-phase wire compensation	Capacitance compensation mode of the 2nd circuit: G: 3-phase compensation; F: Single-phase compensation; X: 3-phase wire compensation	Built-in compensation controller: 1: Available; 2: Not available; 3: Voltage type	Rated voltage (V)	The 1st circuit Capacitance capacity (Kvar)	The 2nd circuit Capacitance capacity (Kvar)

EXVAR
Intelligent Anti-resonance Power Capacitor



Product Overview

As a popular issue among electric power users, harmonic wave is generally caused by nonlinear load equipment, such as variable speed drive (VSD) of electric motor, soft starter, rectifier and UPS system, electric arc furnace (EAF), electric welder and lighting equipment in large buildings.

Harmonic wave may lead to damage and misaction of transformer, capacitor, circuit breaker, etc. as well as fault of computer and communication devices.