Since 2001

ANHUI ZHONGDIAN ELECTRIC CO., LTD.

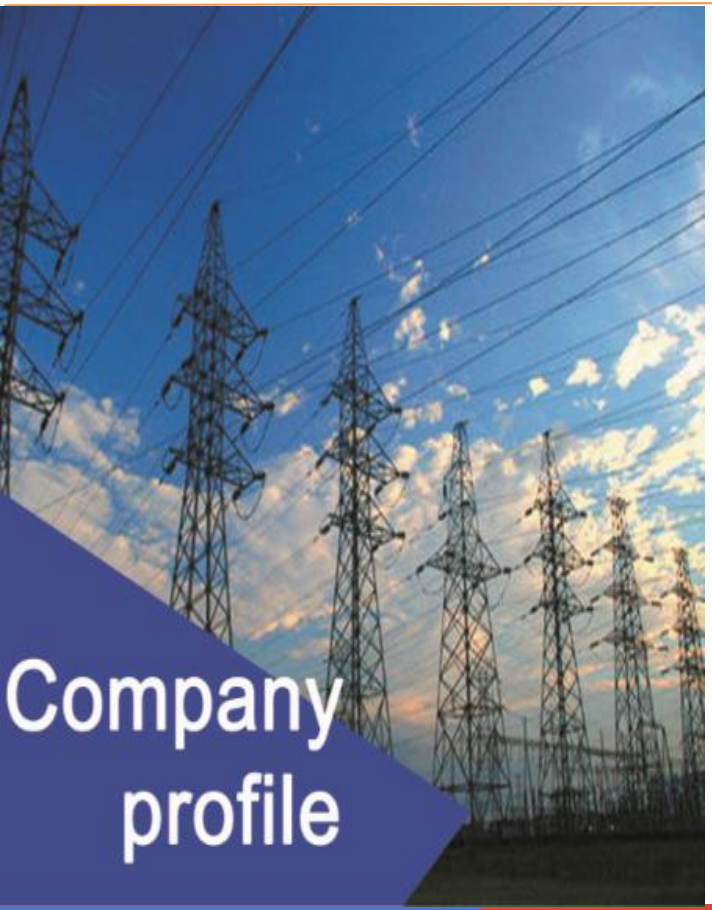
Company Introduction

Anhui Zhongdian(ZDDQ) Electric Co., Ltd. established in 2001. ZDDQ Technology Park locates in Bengbu City of Anhui Province. We're a professional and leading manufacture, focus on advanced power quality improvement and power factor correction. APF,SVG,APFC are our main products. ZDDQ has a leading independent R&D team and quality supervision system, and maintain long-term cooperative relations with China University of Science and Technology, Zhejiang University and a number of well-known institutions.

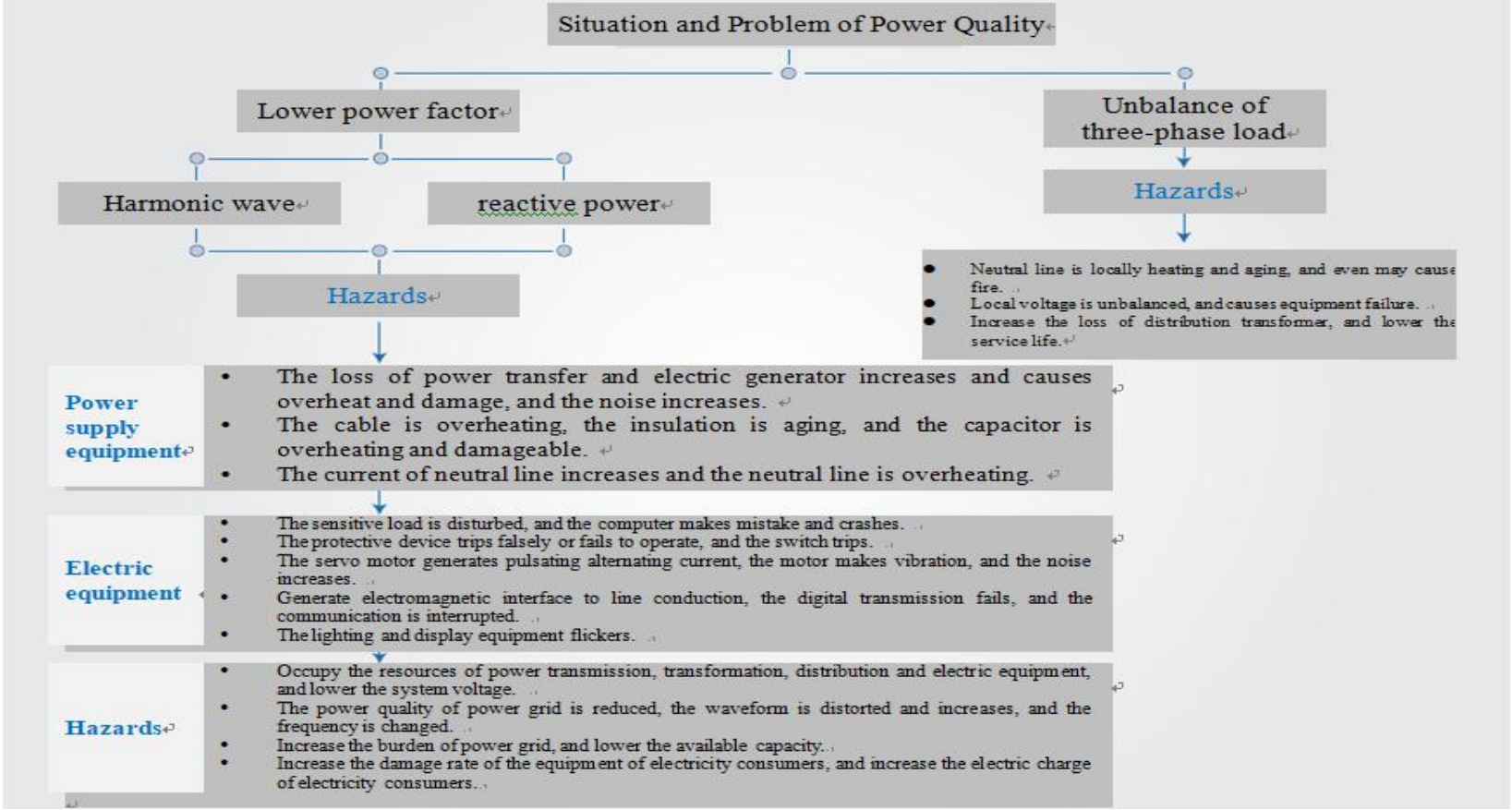
We insists on customers' demand as the guide, with the technology innovation as the drive, through 20 years technology accumulation, has already owned a series of power quality products including APF, Medium voltage and low voltage SVG, Medium voltage and Low voltage Automatic Power Factor Correction, which are widely used in many countries and industries such as power grid, hospital, sewage plant, railway, subway, airport, seaport, oil and chemical industry, metallurgy, coal mine, tele-communication and high buildings and so on.

Registered capital of ZDDQ is USD16,900,000, with more than 200 employees.

◆Catalogue



Analysis of Power Quality



Benefits of Power Quality Control

- Improve the power factor, and save electric energy by 10%~25%;
- Reduce the inputs in capacity expansion of transformer, and extend the service life of equipment;
- Increase the operational reliability of equipment, and reduce the inputs in equipment maintenance and replacement;
- Maintain continuity and stability of production and power supply, and improve production efficiency;
- Meet national standard, and avoid the power supply management department to urge rectification and give punishment.

Power Factor Correction

Reduce Electricity Cost

Power Quality Improvement

L.V. Active Harmonic Filter

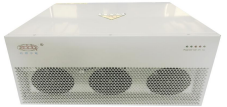
Active Power/Harmonic Filter(APF/AHF) is a perfect comprehensive solution to power quality problems with power grid such as harmonic wave, reactive power, and three-phase load unbalance.
ZD-APF-1000 active power filter is connected in parallel in power grid, to detect the harmonic wave in power grid in real time, generate the reverse-phase compensation current through the converter, and dynamically filter the harmonic wave in power grid. The operation of APF is unaffected by power grid structure and load type, and it will not produce harmonic oscillation with the system, thus perfectly realizing harmonic wave control of various loads. APF can also realize dynamic reactive compensation, and control the capacitor switching, to improve the power factor of power grid. Meanwhile, APF has the function of controlling the three-phase load current unbalance, thus comprehensively solving various power quality problems with power grid.

Rated voltage	400V/480V
Operating frequency	50/60Hz
Electrical connection	Three-phase three-wire / three-phase four-wire
Filter range	2nd~50th order harmonics (selectable)
Filtering control effect	Harmonic filtering rate ⩾97%;
TDHi	THDi<5% after systematic control
Response time	≤5ms
Controller	DSP+FPGA+IGBT
Installation type	Rack type, wall mount type, free standing cabinet
Rated Capacity/Modular	30A/50A/75A/100A/150A
Rated Capacity/Cabinet	200A/250A/300A/400A/500A/600A…

L.V. Static Var Generator

ZD-SVG-1000 Static Var generator (SVG) is the new standard in reactive energy compensation. This power electronic current source is the accurate and highly reliable solution for today's networks characterised by significant increase in harmonics, voltage variations caused by intermittent renewable sources connected to the network and voltage level due to the smart grid development. The DSP controlled IGBT topology enables a perfect compensation on each phase for both inductive and capacitive loads. It also correct phase unbalance where necessary. Immune to harmonics, resonance and voltage level, it offers a maintenance free solution reusable in any network configuration.

Rated voltage	400V/480V
Operating frequency	50/60Hz
Electrical connection	Three-phase three-wire / three-phase four-wire
Reactive Compensation Effect	PF > 0.98 within the rated compensation capacity.
Active Loss of system	<3%
Response time	≤5ms
Controller	DSP+FPGA+IGBT
Installation type	Rack type, wall mount type, free standing cabinet
Rated Capacity/Modular	30Kvar/50Kvar/75Kvar/100Kvar
Rated Capacity/Cabinet	150Kvar/200Kvar/250Kvar/300Kvar/400Kvar…



L.V. Power Factor Correction Panel

One contributing element to power quality is power factor. Power Factor Correction (PFC) aims to improve power factor, utilising capacitors to offset usually inductive loads, for example motors.
Automatic Power Factor Correction Panel (APFC)offer feature fully intelligent and automatic operation support and helps in achieving required Power Factor under fluctuating loads. The use of latest technology based components and high fabrication standards also make these panels flawlessly maintain the need of delivering high PF. Further, Switch (Contactor, Thyristor, Compound Switch) also ensures real-time correction of PF. The reactors can filter harmonics and improve power quality.

Rated Voltage	400V/480V
Operating Frequency	50/60Hz
Electrical Connection	Three-phase three-wire / three-phase four-wire
Reactive Compensation Effect	PF > 0.95 within the rated compensation capacity
Control Switch	ZD-DWJ: AC contactor ZD-DWM: Compound switch ZD-DWT: Thyristor
Response Time	ZD-DWJ: ≤100ms ZD-DWM: ≤60ms ZD-DWT: ≤20ms
Power Factor Controller	ZD-MC
Protection	Short circuit,over circuit, over voltage, under voltage

3KV~11KV Power Factor Correction Panel

Reactive Power Compensation in Distribution Systems(APFC) aims to improve power factor and enhence power quality, utilising capacitors to offset usually inductive loads(motors). APFC system increase the efficiency of power supply, delivering immediate cost savings on electricity.

ZD-GWJ APFC panel with individual compensation: can detect the reactive power needed by the system in real time,compare it with the set value, carry on the automatic intelligent capacitor-switching on/off, make the reactive power of the system achieve dynamic balance, in order to improve the power factor of the system, stabilize the system voltage.

Rated Voltage	3KV~11KV
Operating Frequency	50/60Hz
Electrical Connection	Three-phase three-wire / three-phase four-wire
Reactive Compensation Effect	PF > 0.9 within the rated compensation capacity
Control Switch	Vacuum Contactor
Reactance Ratio	6% 12% or customerized
Power Factor Controller	ZD-MJCB
Humidity	≤95%,non-condensate

6KV~35KV SVG/STATCOM

At Medium Voltage side, like SVC but faster, STATCOM continuously provides variable reactive power in response to voltage variations, supporting the stability of the grid. STATCOM operates according to voltage source converter (VSC) principles, combining unique PWM (pulse width modulation) with millisecond switching. STATCOM functions with a very limited need for harmonic filters, contributing to a small physical footprint. If required, switched or fixed air core reactors and capacitors can be used with the VSC as additional reactive power elements to achieve any desired range.
ZD-FGSVG STATCOM has outdoor type and indoor type, with air cooling system or water cooling system.

Rated voltage	6KV~35KV
Operating frequency	50/60Hz
Electrical connection	Three-phase three-wire / three-phase four-wire
Rated Capacity	±1Mvar~100Mvar
Reactive Power Compensation	Compensate inductive and capactive power continuously and smoothly.
Control Power	380VAC, 220VAC, or 220VDC
Over-load Capacity	>120%
Response time	≤10ms
Active power loss	≤0.8%
THDi (Current)	≤3%
Start regulated reactive power	10Kvar
Resolution of compensate current	1%
Main Circuit	H-Bridge IGBT

Project Application

◆0.4KV AHF&SVG for Chemical Factory

- ➢Install Place: Binzhou City, Shandong Province
- ➢Capacity: 1100A AHF and 900Kvar SVG
- ➢Rated Voltage: 400V
- ➢Load: Serious Harmonics Pollution and Low Power Factor
- ➢Compensation Effect APF and SVG: Power Factor>0.98, THDi<5%,THDv<2%

Project Application

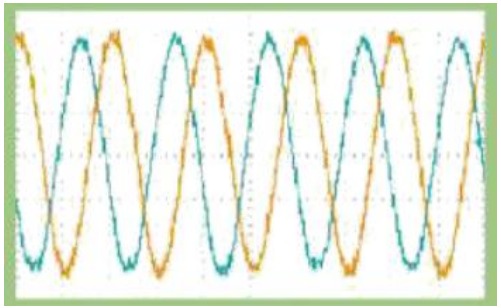
◆0.4KV SVG for Rolling Mill

- ➢Install Place: Heze City, Shandong Province
- ➢Capacity: 800Kvar
- ➢Rated Voltage: 0.4KV
- ➢Load: Large Voltage Fluctuation, Power Factor 0.35, Harmonics Pollution at Order 3rd,5th,7th
- ➢Compensation Effect: Power Factor 0.98, Voltage Fluctuation<1.5%,

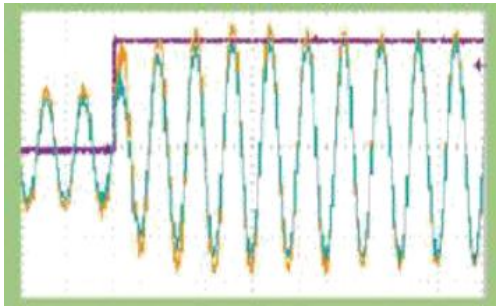
Project Application

◆35KV Statcom in Solar Plant

- ➢Install Place: DelingHa City, Tsinghai Province
- ➢Capacity: -8Mvar~+8Mvar
- ➢Rated Voltage: 35KV
- ➢Load: 30Mvar Solar Farm, Inductive and Capacitive Load
- ➢Effect: PF>0.98, Voltage Fluctuation <1.5%, TDHi<5%



Parallel Running waveform



Response Time Test

Project Application

◆35KV Statcom in Wind Farm

- ➢Install Place: Changji City, Xinjiang Province
- ➢Capacity: -16Mvar~+16Mvar
- ➢Rated Voltage: 35KV
- ➢Load: Great Voltage Fluctuation, and the Instantaneous Power Factor is as Low as 0.81
- ➢Compensation Effect after Statcom: Power Factor>0.98

  Meet Harmonics Standard (GB/T 14549 / 1993)

  Meet the Needs of Low Voltage Traversing

Contact us

Anhui Zhongdian Electric Co., Ltd.

Tel: 86-552-4081055, 4077338

Fax: 86-552-4081155

Add.: No.25,Jinhe Rd, Economic&Development Zone,

Huaiyuan, Bengbu, Anhui,China

Mail:hanson@chinazddq.com

Web: http://www.zddqelectric.com/