



**Power Solution Provider**  
*Since 1979*



Voltage Stabilizer



Transformer



Voltage Optimiser



Frequency Converter



Harmonic Filter

**More POWER by  
Saving ENERGY**



# About MODERN

Wenzhou Modern Group(MODERN) is one of a leading company in designing and manufacturing **Power Quality** and **Energy Saving** products in the world.

Since 1979, MODERN has pioneered improvements in power solutions sectors for **Industrial, Commercial, Medical, Broadcast and Telecom** applications. Our products range various from **Voltage Stabilizers, Voltage Optimizers, Voltage Regulator, Transformers and Reactors to Frequency Converters, UPS, Harmonic Filters, Power Factor Correction and Surge Protectors.**

All MODERN products are designed and manufactured with the worldwide ISO quality standards. Besides standard production, MODERN can be extremely flexible in developing and manufacturing special tailored specifications thanks to a proficient technology development.

MODERN is well established in the international markets. Thanks to strategically positioned offices and distributors, MODERN's products are installed and working in over 50 countries and regions around the world.

MODERN is committed to provide complete innovative and cost-effective power quality and energy saving solutions coupled with excellent customer service for all kinds of critical applications.



# Our Key Milestones



New version of web site publishing



GPRS technology introduced to allow remote monitoring, controlling VOU

Obtained CE for voltage stabilizer

Obtained CE for transformer



Became strategy partner of Emerson Network Power

Obtained ISO 9001 quality system



Became first batch of strategy partner for GE Healthcare in China



Founded by Dr. Xu Zhenghua

2019

Celebrating our 40 years anniversary

2015

Obtained CE for voltage optimization unit

2012

Obtained TUV for dry type transformer

2010



Voltage Optimization Unit (VOU) introduced

2007

Obtained TUV for voltage stabilizer

2006



Introduction of patent variable transformer with roller carbon brush

2005

2003

Wenzhou Modern Group was founded with over 10 subsidiaries



1995

1994

Constant Voltage Transformer(CVT) introduced, and UL certified

1992

1988

1979

# Our Core Strengths

## Automatic Production Process



Transformer core cutting machine



Transformer core lamination machine



Transformer coil winding machine

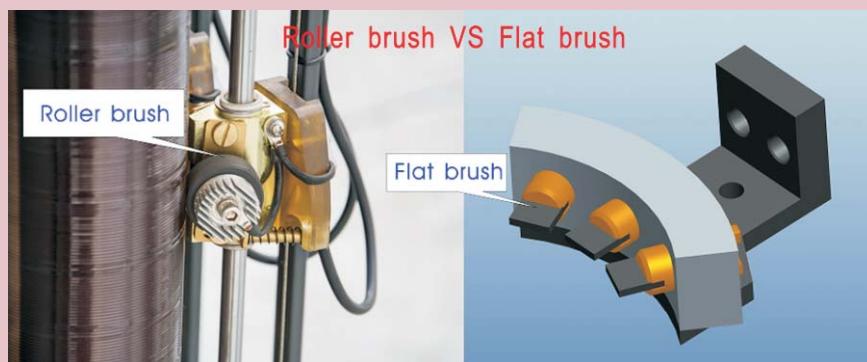
With above high mechanization equipments, the transformer coil will be **beautiful, compact** and **good heat dissipation**. The transformer production will be **more efficient, lower labor cost**, and **increase production capacity**.

## Complete Vacuum Pressure Impregnation (VPI)



With complete vacuum pressure impregnation process, the transformers will be **higher insulation class, lower noise**, and **longer life**.

## Long Life Roller Carbon Brush



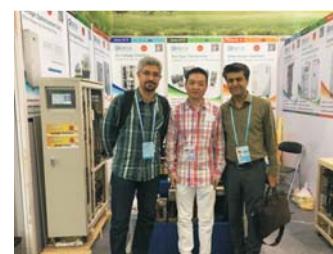
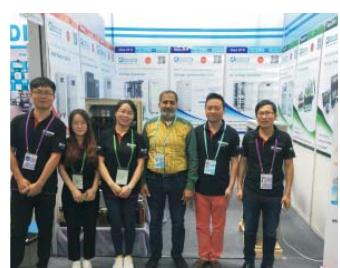
- ✓ Long life (over 10years)
- ✓ Excellent loading capacity
- ✓ No vulnerable parts
- ✓ Quiet
- ✓ Low consumption

- ◆ Easily broken or damaged
- ◆ Unbalance loading
- ◆ Easily wear and tear
- ◆ Loud noise
- ◆ Much more consumption

Our **patent** three phase individual voltage regulator with roller carbon brush to realize the complete voltage stabilizer dimension much **more compact** than the other vendor's ones.



# Who Trust Us



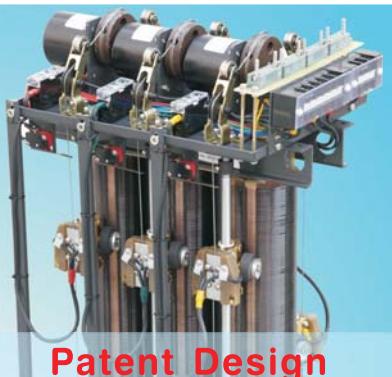
# Contents

	<b>Servo Voltage Stabilizer(AVR)</b>	01-02
	<b>Wide Range Voltage Stabilizer</b>	03-04
	<b>Static Voltage Stabilizer</b>	05-06
	<b>Voltage Optimiser</b>	07-08
	<b>Power Saver for Lighting</b>	09
	<b>Relay Voltage Stabilizer</b>	10
	<b>Constant Voltage Transformer(CVT)</b>	11
	<b>Voltage Regulator</b>	12
	<b>Transformers</b>	13
	<b>Reactors</b>	14
	<b>Frequency Converter</b>	15-16
	<b>Uninterruptible Power Supply(UPS)</b>	17-18
	<b>Harmonic Filter</b>	19-20
	<b>Power Factor Correction(PFC)</b>	21-22
	<b>Neutral Current Eliminator</b>	23
	<b>Surge Protector Device(SPD)</b>	24



**Servo Voltage Stabilizer  
D B W / S B W Series  
Single Phase / Three Phase  
1 0 - 5 0 0 0 K V A**

**Maintenance free, better equipment protection, more uptime and lower energy costs across a wide range of industries and applications**



**Patent Design**



**Touch Screen**



**Digital Control Board**

## Features & Benefits

- Maintenance free roller type carbon brush
- Unique compact dimension
- Independent phase regulation with 3 motors
- Voltage vector control allowing overload
- High efficiency, up to 98%(full load)
- High Mean Time Between Failure(MTBF)
- Completed protections
- Full bypass

## Applications

- Telecom & Broadcast
- Industrial
- Commercial
- Medical & Scientific

## Technical Specifications

<b>Input</b>					
<b>Input voltage</b>	220/380V, 230/400V, 240/415V system, other voltage system can be customized				
<b>Input Range</b>	±20% (±15% ~ ±50% can be customized)				
<b>Input Frequency</b>	50/60Hz				
<b>Output</b>					
<b>Output Voltage</b>	220/380V, 230/400V, 240/415V system, other voltage system can be customized				
<b>Output Accuracy</b>	Selectable: ±1% to ± 5%, Factory preset: ±2%				
<b>Waveform Distortion</b>	Nil				
<b>Power Factor</b>	0.8~1				
<b>Efficiency</b>	≥98%(full load)				
<b>General</b>					
<b>Working Principle</b>	<b>Servo motor, microprocessor controlled, full automatic</b>				
<b>Insulation Class of Transformer</b>	H class				
<b>Method of Voltage Regulation</b>	<b>Three phase independent regulation</b>				
<b>Indicators</b>	Voltage, Current, Power, Parameters setting, Failure information				
<b>Cooling</b>	Natural/forced air				
<b>Protection Level</b>	IP21(indoor), IP54(outdoor)				
<b>Electrical Safety</b>	CE equivalent				
<b>Environmental</b>					
<b>Working Temperature</b>	-20 °C to +50 °C				
<b>Altitude</b>	<1000m				
<b>Relative Humidity</b>	<90%				
<b>Noise</b>	<55dB				
<b>Functions</b>					
<b>Normal Functions</b>	Malfunction protection, Short-circuit protection, Lack of phase protection, Wrong sequence protection, Over voltage / Under voltage protection, Overload protection, Safe start, Manual bypass, Indicating alarms, Security password, RS232/485 interface				
<b>Optional Functions</b>	Isolation transformer, Surge protector (SPD), GPRS or Wifi communication, Auto bypass, Centralized monitoring, Touch screen HMI , App control				
<b>Dimensions</b>					
Model	Dimension (W×D×H)mm	Model	Dimension (W×D×H)mm	Model	Dimension (W×D×H)mm
DBW-10KVA	280×700×1270	DBW-20KVA	280×700×1270	DBW-30KVA	280×700×1270
DBW-50KVA	280×700×1270	DBW-80KVA	280×700×1270	DBW-100KVA	280×700×1270
SBW-15KVA	280×700×1270	SBW-180KVA	320×850×1470	SBW-800KVA	600×1300×2000
SBW-20KVA	280×700×1270	SBW-200KVA	400×1000×1670	SBW-1000KVA	800×1800×1900
SBW-30KVA	280×700×1270	SBW-250KVA	400×1000×1670	SBW-1200KVA	1000×1800×1900
SBW-50KVA	280×700×1270	SBW-300KVA	400×1000×1670	SBW-1500KVA	1000×1800×1900
SBW-80KVA	280×700×1270	SBW-350KVA	500×1150×1870	SBW-2000KVA	1000×1800×1900 2*Case
SBW-100KVA	320×850×1470	SBW-400KVA	500×1150×1870	SBW-3000KVA	1000×1800×1900 2*Case
SBW-120KVA	320×850×1470	SBW-500KVA	600×1300×2000	SBW-4000KVA	1000×1800×1900 3*Case
SBW-150KVA	320×850×1470	SBW-600KVA	600×1300×2000	SBW-5000KVA	1000×1800×1900 4*Case



**Cope with input voltage down to 90V, and output voltage regulated to rated 220V without de-rated input power a lot**



## Features & Benefits

- Extremely **wide input voltage** range:  
150-260Vac (L-N), or can be customized down to 90V
- **Maintenance free** roller type carbon brush
- Unique compact dimension
- Independent phase regulation with 3 motors
- High efficiency, up to 98%(full load)
- High Mean Time Between Failure(MTBF)
- Completed protections
- Full bypass

## Applications

- Telecom & Broadcast
- Industrial
- Commercial
- Medical & Scientific
- Lift (Elevator)

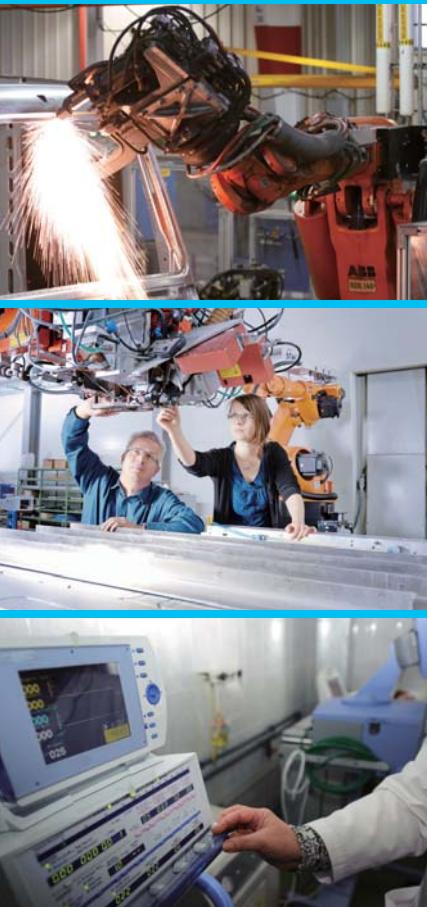
## Technical Specifications

<b>Input</b>					
<b>Input Voltage</b>	220/380V, 230/400V, 240/415V system, other voltage system can be customized				
<b>Input Range</b>	150-260V (other input range can be customized)				
<b>Input Frequency</b>	50/60Hz				
<b>Output</b>					
<b>Output Voltage</b>	220/380V, 230/400V, 240/415V system, other voltage system can be customized				
<b>Output Accuracy</b>	Selectable: ±1% to ±5%, Factory preset: ±2%				
<b>Waveform Distortion</b>	Nil				
<b>Power Factor</b>	0.8~1				
<b>Efficiency</b>	≥98%(full load)				
<b>General</b>					
<b>Working Principle</b>	<b>Servo motor, microprocessor controlled, full automatic</b>				
<b>Insulation Class of Transformer</b>	H class				
<b>Method of Voltage Regulation</b>	<b>Three phase independent regulation</b>				
<b>Indicators</b>	Voltage, Current, Power, Parameters setting, Failure information				
<b>Cooling</b>	Natural/forced air				
<b>Protection Level</b>	IP21(indoor), IP54(outdoor) on request				
<b>Electrical Safety</b>	CE equivalent				
<b>Environmental</b>					
<b>Working Temperature</b>	-20 °C to +50 °C				
<b>Altitude</b>	<1000m				
<b>Relative Humidity</b>	<90%				
<b>Noise</b>	<55dB				
<b>Functions</b>					
<b>Normal Functions</b>	Malfunction protection, Short-circuit protection, Lack of phase protection, Wrong sequence protection, Over voltage protection, Under voltage protection, Overload protection, Safe start, Manual bypass, Indicating alarms, Security password, RS232/485 interface				
<b>Optional Functions</b>	Isolation transformer, Surge protector(SPD), GPRS or Wifi communication, Auto bypass, Centralized monitoring, Touch screen HMI				
<b>Dimensions</b>					
Model	Dimension (W×D×H)mm	Model	Dimension (W×D×H)mm	Model	Dimension (W×D×H)mm
DZW-10KVA	230×480×740	DZW-15KVA	230×480×740	DZW-20KVA	230×480×740
DZW-30KVA	230×480×740	SZW-10KVA	280×560×750	SZW-15KVA	280×560×750
SZW-20KVA	280×560×750	SZW-30KVA	280×560×750	SZW-50KVA	280×560×750
SZW-60KVA	320×700×950	SZW-80KVA	320×700×950	SZW-100KVA	320×700×950

**Static Voltage Stabilizer**  
**ZDBW/ZSBW Series**  
**Single Phase / Three Phase**  
**10 - 2500 KVA**



**Adjust to the right voltage value required by industrial devices which develop rapidly and become more sensitive**



## Features & Benefits

- User-friendly HMI, large-screen LCD display with all parameters
- Maintenance-free, no mechanical error and no wear of carbon brush
- Independent phase regulation
- Fastest regulator: adjust the voltage to the output voltage rating of 40ms
- Auto bypass
- Completed protections
- Capable of overload, suitable for resistive, capacitive, inductive and mixed loads

## Technical Specifications

<b>Input</b>					
<b>Input voltage</b>	220/380V, 230/400V, 240/415V system, other voltage system can be customized				
<b>Input Range</b>	15% ( $\pm 20\%$ ~ $\pm 50\%$ can be customized)				
<b>Input Frequency</b>	50/60Hz				
<b>Output</b>					
<b>Output Voltage</b>	220/380V, 230/400V, 240/415V system, other voltage system can be customized				
<b>Output Accuracy</b>	Selectable: $\pm 0.5\%$ to $\pm 2\%$				
<b>Waveform Distortion</b>	Nil				
<b>Power Factor</b>	0.8~1				
<b>Efficiency</b>	$\geq 98\%$ (full load)				
<b>General</b>					
<b>Working Principle</b>	<b>Silicon Controlled Rectifier(SCR), full automatic</b>				
<b>Insulation Class of Transformer</b>	H class				
<b>Method of Voltage Regulation</b>	<b>Three phase independent regulation</b>				
<b>Indicators</b>	Voltage, Current, Power, Parameters setting				
<b>Cooling</b>	Natural/forced air				
<b>Protection Level</b>	IP21(indoor), IP54(outdoor) on request				
<b>Electrical Safety</b>	CE equivalent				
<b>Environmental</b>					
<b>Working Temperature</b>	-20 °C to +50 °C				
<b>Altitude</b>	<1000m				
<b>Relative Humidity</b>	<90%				
<b>Noise</b>	<45dB				
<b>Functions</b>					
<b>Normal Functions</b>	Malfunction protection, Short-circuit protection, Lack of phase protection, Wrong sequence protection, Over voltage protection, Under voltage protection, Overload protection, Safe start, Auto bypass, Indicating alarms, Security password, RS232/485 interface				
<b>Optional Functions</b>	Isolation transformer, Surge protector(SPD), Manual bypass				
<b>Dimensions</b>					
Model	Dimension (W×D×H)mm	Model	Dimension (W×D×H)mm	Model	Dimension (W×D×H)mm
ZSBW-10KVA	350×600×750	ZSBW-15KVA	350×600×750	ZSBW-20KVA	350×600×750
ZSBW-30KVA	350×600×750	ZSBW-45KVA	390×650×870	ZSBW-60KVA	390×650×870
ZSBW-75KVA	460×650×1200	ZSBW-100KVA	460×650×1200	ZSBW-150KVA	700×700×1200
ZSBW-200KVA	700×700×1200	ZSBW-250KVA	1100×800×2100	ZSBW-320KVA	1100×800×2100
ZSBW-400KVA	1100×800×2100	ZSBW-500KVA	1100×800×2100	ZSBW-600KVA	1100×800×2100
ZSBW-800KVA	1800×1000×2100	ZSBW-1000KVA	1800×1000×2100	ZSBW-1200KVA	1800×1000×2100
ZSBW-1600KVA	1800×1000×2100	ZSBW-2000KVA	1800×1000×2100	ZSBW-2500KVA	1800×1000×2100

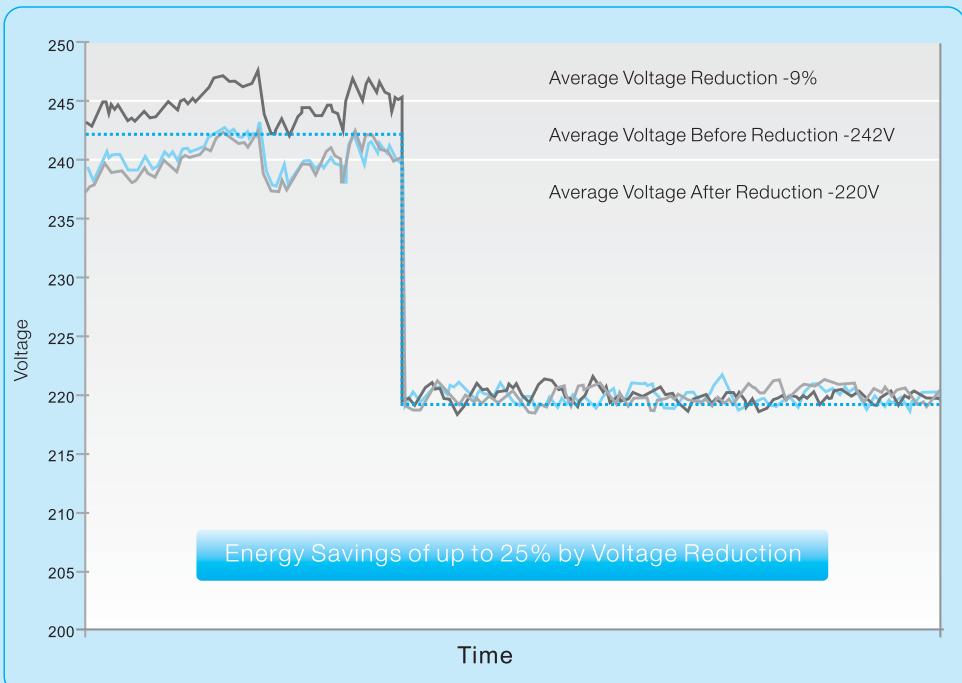
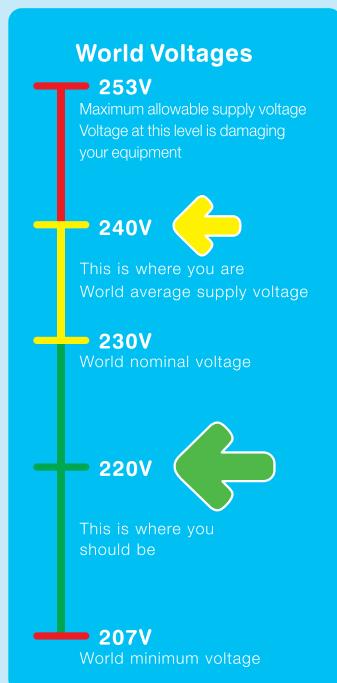


**Voltage Optimiser  
S J D Series  
Single Phase / Three Phase  
15 - 5000 KVA**

**Optimize energy usage, lowering electricity and maintenance costs, extending electrical equipment's lifetime**

### Features & Benefits

- Energy saving up to 25%
- Fast Return of Investment(ROI)
- High efficiency
- Prolong equipments life span
- Real time energy monitoring with GPRS or WIFI
- Protect equipments against failures
- No-break bypass allowing no power interruption



## Technical Specifications

<b>Input</b>					
<b>Input voltage</b>	220/380V, 230/400V, 240/415V system, other voltage system can be customized				
<b>Input Range</b>	±15% (other input range can be customized)				
<b>Input Frequency</b>	50/60Hz				
<b>Output</b>					
<b>Output Voltage</b>	220/380V system, other voltage system can be customized				
<b>Output Accuracy</b>	Selectable: ±1% to ±5%, Factory preset: ±2%				
<b>Waveform Distortion</b>	Nil				
<b>Power Factor</b>	0.8~1				
<b>Efficiency</b>	≥98%(full load)				
<b>General</b>					
<b>Working Principle</b>	<b>Servo motor, microprocessor controlled, full automatic</b>				
<b>Insulation Class of Transformer</b>	H class				
<b>Method of Voltage Regulation</b>	<b>Three phase independent regulation</b>				
<b>Indicators</b>	Voltage, Current, Power, Parameters setting, Failure information				
<b>Cooling</b>	Natural/forced air				
<b>Protection Level</b>	IP21(indoor), IP54(outdoor) on request				
<b>Electrical Safety</b>	CE equivalent				
<b>Environmental</b>					
<b>Working Temperature</b>	-20 °C to +50 °C				
<b>Altitude</b>	<1000m				
<b>Relative Humidity</b>	<90%				
<b>Noise</b>	<55dB				
<b>Functions</b>					
<b>Normal Functions</b>	Completed protections, GPRS or Wifi communication, Auto bypass, Safe start, Manual bypass, Indicating alarms, Security password, RS232/485 interface				
<b>Dimensions</b>					
Model	Dimension (W×D×H)mm	Model	Dimension (W×D×H)mm	Model	Dimension (W×D×H)mm
SJD-15KVA	280×700×1270	SJD-20KVA	280×700×1270	SJD-30KVA	280×700×1270
SJD-50KVA	280×700×1270	SJD-80KVA	280×700×1370	SJD-100KVA	320×850×1470
SJD-120KVA	320×850×1470	SJD-150KVA	320×850×1470	SJD-180KVA	320×850×1470
SJD-200KVA	320×850×1470	SJD-250KVA	400×1000×1670	SJD-300KVA	400×1000×1670
SJD-350KVA	500×1150×1870	SJD-400KVA	500×1150×1870	SJD-500KVA	600×1300×2000
SJD-600KVA	600×1300×2000	SJD-800KVA	600×1300×2000	SJD-1000KVA	800×1800×1800
SJD-1200KVA	1000×1800×1900	SJD-1500KVA	1000×1800×1900	SJD-2000KVA	1000×1800×1900 (Two cabinets)
SJD-3000KVA	1000×1800×1900 (Two cabinets)	SJD-4000KVA	1000×1800×1900 (Three cabinets)	SJD-5000KVA	1000×1800×1900 (Four cabinets)

**Reduce electricity cost sustainably  
without affecting the performance  
and reliability of the equipment**



**Power Saver for Lighting  
D Z G      S e r i e s  
Single Phase / Three Phase  
2 0 - 1 0 0 0 K V A**

## Features & Benefits

- Energy saving up to 50%
- Fast Return of Investment(ROI)
- High efficiency
- Prolong equipments life span
- Individual adaptation voltage level by programming of time curves
- Automatic bypass switch protects against lighting outages
- Different types of lamps can operate together in one system

## Technical Specifications

<b>Input</b>					
<b>Input voltage</b>	230/400V system, other voltage system can be customized				
<b>Input Range</b>	±10% (other ranges can be customized)				
<b>Input Frequency</b>	50/60Hz				
<b>Output</b>					
<b>Output Voltage</b>	Maximum nominal voltage reduction of 17%				
<b>Output Adjustment</b>	4 steps of -5%, -8%, -13%, -17%(other can be customized)				
<b>Efficiency</b>	≥99%(full load)				
<b>General</b>					
<b>Cooling</b>	Natural/forced air				
<b>Protection Level</b>	IP21(indoor), IP54(outdoor) on request				
<b>Electrical Safety</b>	CE equivalent				
<b>Environmental</b>					
<b>Working Temperature</b>	-20 °C to +50 °C				
<b>Altitude</b>	<1000m				
<b>Relative Humidity</b>	<90%				
<b>Noise</b>	<55dB				
<b>Normal Functions</b>	Complete protections, Safe start, Auto bypass, Indicating alarms				
<b>Dimensions</b>					
Model	Dimension (W×D×H)mm	Model	Dimension (W×D×H)mm	Model	Dimension (W×D×H)mm
DZG-20KVA	300×600×700	DZG-30KVA	300×600×700	DZG-50KVA	300×600×700
DZG-70KVA	300×600×700	DZG-100KVA	300×600×700	DZG-125KVA	400×800×800
DZG-150KVA	400×800×800	DZG-175KVA	400×800×800	DZG-200KVA	400×800×800
DZG-225KVA	400×800×800	DZG-250KVA	500×900×1000	DZG-300KVA	500×900×1000
DZG-350KVA	500×900×1000	DZG-400KVA	500×900×1000	DZG-500KVA	500×900×1000
DZG-600KVA	500×900×1000	DZG-800KVA	600×1000×1200	DZG-1000KVA	600×1000×1200

Ideal choice for protecting civil and commercial electric appliances with high reliability and cost-effective

Relay Voltage Stabilizer  
DJA/SJA Series  
Single Phase / Three Phase  
1 - 15 KVA



## Features & Benefits

- Excellent power supply with full protection
- Wall mounted installation, effective utilization of space
- **High precision≤2%**
- Aesthetic appearance

## Applications

- Home appliances
- Testing equipments
- Medical instruments
- Office equipment
- Science research instruments
- Lighting system

## Technical Specifications

Model	DJA						
Capacity(KVA)	1KVA	2KVA	3KVA	5KVA	7.5KVA	10KVA	15KVA
<b>Input Voltage</b>	Single phase 120-270V						
<b>Output Voltage</b>	Single phase 220V± 2%						
<b>Efficiency</b>	≥98% on full load						
<b>Frequency</b>	50/60Hz						
<b>Over Voltage Protection</b>	Output voltage≥245V						
<b>Under Voltage Protection</b>	Output voltage≤180V						
<b>Start Delay Protection</b>	6s						
<b>Dimension(WxHxD)mm</b>	225x330x150		240x410x190		280x480x240		
<b>Weight(kg)</b>	12	15	19	27	38	42	50

**Ideal maintenance free solutions for loads that can suffer electrical noise, local transient, mains power sags, surges and brownouts**



**Constant Voltage Transformer(CVT)**  
**T J A     S e r i e s**  
**S i n g l e   P h a s e**  
**0.15 - 20 KVA**

## Features & Benefits

- Galvanic isolation
- High common and normal mode noise attenuation
- Sag, surge and brownout protection
- **Sine wave output** (regardless of input waveform)
- Low installation heat output and running costs(maintenance free)
- High Mean Time Between Failure (MTBF)
- Easy to install

## Applications

- Process control
- Automation
- Computer system
- Broadcasting
- Medical
- Air, rail, ship

## Technical Specifications

Model	TJA							
	0.5KVA	1KVA	2KVA	3KVA	5KVA	7.5KVA	10KVA	15KVA
<b>Capacity(KVA)</b>	Single phase 220±30%(154-286V)							
<b>Input Voltage</b>	Single phase 220V±1-3%							
<b>Output Voltage</b>	≥90% on full load							
<b>Frequency</b>	50/60Hz							
<b>Dimension(WxHxD)mm</b>	140x210x360	220x320x380	320x680x450	320x710x520	400x820x560	460x820x600		
<b>Weight(kg)</b>	17	36	70	92	136	220	270	320

**Provides a continuously adjustable output voltage for inputs from 220 to 600V**

**Voltage Regulator  
TDGZ/TSGZ Series  
Single Phase / Three Phase  
1 - 1000 KVA**

**Since 1979**



## Features & Benefits

- Single and three phase configurations
- Patented auto variable transformer system
- Unique roller carbon brush design
- Reliable and quiet servo motor
- Stepless regulation from 0-100%
- Step-up available to 30% rated input voltage
- Short time overload capability
- Negligible output distortion
- Can adjust and regulate voltage



## Applications

- Scientific research
- Telecom and testing equipment
- Industrial ancillary facilities
- Meet practically any need for varying voltage
- Provide dependable and precise regulation for many testing applications



## Main Technical Parameters

Model	TDGZ single phase	TSGZ three phase
<b>Input Voltage</b>	220V	380V
<b>Output Voltage</b>	0-250V	0-430V
<b>Capacity</b>	1-200KVA	1-1000K
<b>Frequency</b>	50/60Hz	
All the parameters can be custom design		



**Used as isolation transformers or to adjust the voltage level in the LV distribution grid**



## Dry Type Transformers

### D G / S G Series

Single Phase / Three Phase

1 - 1 0 0 0 K V A

## Features & Benefits

- Low losses
- Low weight and compact dimensions
- Non-flammable and non-explosive
- IP21 enclosures (optional)
- With air cooling based on natural convection
- Complete Vacuum Pressure Impregnation (VPI)

## Type

- Isolation Transformers
- Auto Transformers
- Harmonic Mitigating Transformers
- K-Factor Transformers
- Variable Transformers
- Buch & Boost Transformers

## Ratings

<b>Number of phases</b>	3 or 1
<b>Rated power</b>	1-1000KVA(others on request)
<b>Primary/secondary voltage</b>	220,230,380,400,600,690V(others on request)
<b>Frequency</b>	50,60,400Hz

## Applications

- Wind or solar
- Transportation (ie, marine or railways)
- Uninterruptible power supply (UPS)
- Chemical, oil and gas industry
- Motor drive
- Converters
- Testing (Avoid electric shock)

## Standards

All units are built in accordance with IEC and EN

The specifications of the transformers as input and output, capacity, voltage, current, frequency (40~650Hz), temperature rise, insulation class and noise and so on can be custom designed.

**Play an important role to control electricity increases constantly, depending on their duty in the electrical circuit**



## Features & Benefits

- The iron core is made of top quality silicon sheet
- Special process guarantees the noise level less than 55DB
- Winding and wire are insulated by NOMEX(C insulation level)
- High mechanical strength and high ability to resist short circuit shock
- Moisture proof, dust proof, pollution proof, fireproof, non-electromagneticpollution
- Maintenance free and easy reliable installation



## Type

- Smoothing Reactors
- Current Limiting Reactors
- Harmonic Filter Reactors
- Series Reactors
- Starting Reactors
- Input/Output Reactors

## Applications

- Power electronics
- Reactive power compensation
- Harmonic filtering
- Motor starting
- Short-circuit limiting
- Neutral grounding

## Ratings

<b>Power ratings</b>	On type and technology
<b>Voltages</b>	Below 1500V(others on request)
<b>Insulation</b>	Class H or C
<b>Main use</b>	General industries, utilities and power electronics



**Allows to precisely emulate all the numerous utility mains voltages and frequencies deployed throughout the world**



## Features & Benefits

- Programmable key lock setting output frequency
- Self test at power on
- Galvanic isolation, no harmonic distortion
- PWM technology enhances compact size, light weight
- IGBT module generates high efficiency, low noise & max. reliability
- Powerful overload capability
- Perfect protection when abnormal condition occurred
- Suitable for use with resistive, capacitive, inductive and non-linear loads
- Input/Output: 1P/1P, 3P/3P, 3P/1P, 1P/3P

## Applications

- Test laboratory & research centre
- Electrical & electronic equipment testing
- Production & process control systems
- Airport grounding equipment
- Military diagnostic systems
- Communication, avionics & marine equipment

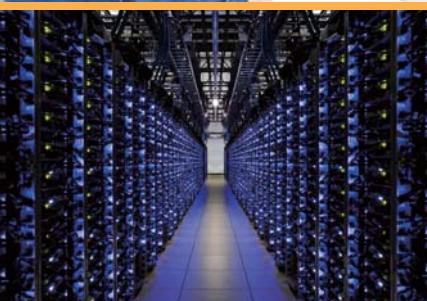
## Technical Specifications

Phase	Single				Three							
Models	0.5-45KVA				3KVA- 1000KVA							
Type	IGBT/Pulse Width Modulation Type											
Input												
Input Voltage	1Phase 2Wire:110V(2 to 5KVA)/220V/230V/240V ±10% 3Phase 4Wire:Wye Type 190/110;200/115;208/120;220/128;230/132;240/139V ±10%				3Phase 4Wire:Wye Type 380/220;400/230;415/240;440/254;460/265;480/277V ±10% 3Phase 3Wire:Delta Type 220;230;240;380;400;415;440V ±10%							
Input Frequency	47 - 63Hz or 400Hz ±5%											
Output												
Output Voltage	110V Setting(Low Range): 0-150V 220V Setting(High Range): 0-300V				(Option: 0-600V)							
Output Accuracy	≤ ±1%											
Frequency	40.0 Hz to 499.9 Hz(Programmable)											
Frequency Stability	≤ ±0.01%											
Distortion(THD)	Pure Sine Wave, ±2%											
Display	4 LED Digital display for frequency, voltage, current and power											
Protections	Electronic Circuit/Circuit Breaker for Overload, Over Temperature, Instant Cut off. Short Circuit											
Environmental												
Temperature	0°C to +40 °C											
Altitude	<1000m											
Relative Humidity	<90%											
Noise	<55dB											
<b>Single Phase Specifications</b>												
Model&capacity	500VA	1KVA	2KVA	3KVA	5KVA	8KVA	10KVA	15KVA	20KVA	30KVA	45KVA	
Dimension(WxDxH)mm	355x370x138		350x530x675		350x550x855		450x630x1000					
<b>Three Phase Specifications</b>												
Model&capacity	3KVA	6KVA	10KVA	15KVA	20KVA	30KVA	45KVA	60KVA	75KVA	100KVA	120KVA	150KVA
Dimension(WxDxH)mm	700x480x1370		800x560x1660		1000x800x1800		1200x800x1850					

Online UPS  
NP Series  
Three Phase  
10-400KVA



Highly available, redundant,  
and scalable double-conversion  
on-line power protection



## Features & Benefits

- High reliability configuration
- N+X parallel redundancy
- Wide input range
- Digital Control
- Stable operation
- Comprehensive protection
- User-friendly network management

## Applications

- Finance, Telecommunication, Insurance
- Transportation, Tax, Military, Stock, Energy
- Education, Government, Manufacture, Enterprise
- Computer, Precision Instrument etc

## Technical Specifications

Models	NP3310	NP3315	NP3320	NP3330	NP3340	NP3360	NP3380	NP33100	NP33120	NP33160	NP33200	NP33300	NP33400
Capacity	10KVA	15KVA	20KVA	30KVA	40KVA	60KVA	80KVA	100KVA	120KVA	160KVA	200KVA	300KVA	400KVA
<b>Input</b>													
Input Voltage	380VAC -/+ 20% (3 phase)												
Input Frequency	40Hz ~ 65Hz (auto sensing)												
Input Power Factor	>0.95												
<b>Output</b>													
Output Voltage	380VAC (3 phase + neutral)												
Output Frequency	Input frequency synchronized												
Output Power Factor	0.8												
THD	<1% (linear load), <3% (non-linear load)												
Efficiency	95%(normal); 98%(eco)												
Crest Factor	3 : 1												
Overload Ability	60' / 10' / 1' (110% / 125% / 150%)												
Transfer Time	0ms												
Battery Voltage	192VDC (optional 240VDC / 384VDC / 480VDC)												
Display	Touch screen (optional LED)												
Communications	RS232 / RS485 / SNMP Card / Dry Contact												
Safety Standard	EN 50091-1 / GB4943, EMC EN 50091-2 / GB7260.2, GB/T 17626.2~5												
<b>Environmental</b>													
Temperature	-10°C ~ 50°C												
Relative Humidity	95 % (Non-Condensing)												
Cooling	Forceful Ventilation (Speed Shift Blower)												
Altitude	Rated Power at 1000m (-1% Rated Power per 100m, 4000m Max)												
Noise	60 ~ 65dB												
Enclosure Level	IP22												
Dimension(mm)	390x725x1220	555x725x1220	800x745x1400	800x800x1800	1100x800x1800	1400x1100x2000							
Net Weight(KG)	200	220	260	300	360	480	550	900	1020	1220	1550	2500	2850

## Harmonic Filter APF Series Three Phase 25 - 300 A



**Provides the simplest and most effective means to mitigate harmonics, and improve equipment operating life**



### Features & Benefits

- Voltage ratings from 208 to 690 vac
- 25 to 300 amp ratings
- Dynamically cancels 3rd to 50th orders harmonics
- Graphics display and analyzer
- Individual or parallel systems for added capacity
- Immediately improves electrical system efficiency
- Reduces operations and maintenance costs
- Quick and easy installation with virtually no downtime
- No need for complex site analysis

### Applications

- Computers and Peripherals
- Variable Frequency Drives (VFDs)
- Uninterruptible Power Supplies(UPS)
- Frequency Converters
- DC Power Systems/Chargers

Items	APF 025/035	APF 050/060	APF075/ 100	APF 150/300
<b>System Parameters</b>				
Rated Input	380V/415V(228V~456V)			
Power Grid Frequency	50/60Hz(range: 45Hz~ 62Hz)			
Parallel Quantites	unlimited			
Efficiency	≥97%			
Power Grid Structure	3P3W, 3P4W			
CT	150/5 ~ 10,000/5			
Circuit Topology	3-level			
<b>Function</b>				
Rated Capacity	25A/35A	50A/60A	75A/100A	150A/300A
Harmonic Compensation	Available			
Reactive Power Compensation	Available			
Unbalance Compensation	Available			
Control Algorithm	FFT, Intelligent FFT, and instantaneous reactive power			
Operation Mode	12 combination, set up priority			
Filtering Order	2 <sup>nd</sup> to 50 <sup>th</sup> orders			
Filter Performance	>95%			
Reaction Time	<50μs			
Overall Response Time	<5ms			
Target Power Factor	Adjustable from -1 to +1			
Switching Frequency	average 20kHz,maximum 35kHz			
Cooling Air Requirement	75L/Sec	151L/Sec	300L/Sec	405L/Sec
Noise Level	<56dB			
<b>Communications And Monitoring Capabilities</b>				
Communications Ports	RS485, and Ethernet port			
Communications Protocols	Modbus (RTU)			
Module display Interface	4.3-inch HMI (module), 7-inch HMI(central monitor), LED			
Protection Functions	over-voltage protection, under-voltage protection, short-circuit protection, inverter bridge inverse protection, over-compensation protection, and so on			
Monitoring Alarm	Available			
Fault Alarm	Available, at most 500 alarm records			
<b>Mechanical</b>				
Mounting Type	Wall-mounted/Rack-mounted/Cabinet			
Dimensions (W x D x H) (mm <sup>3</sup> )	440*490*150 (Rack-mounted) 440*150*470 (Wall-mounted)	440*590*190 (Rack-mounted) 440*190*610 (Wall-mounted)	500*600*190/440*600*230 (Rack-mounted) 500*190*584/440*234*625 (Wall-mounted)	500*560*269/500*650*350 (Rack-mounted) 500*286*557/500*350*650 (Wall-mounted)
Net Weight	18kg	35kg	36kg	48kg
Color	Black			
<b>Environment</b>				
Altitude	≤1500 m; Between 1500 m to 4000 m, according to GB/T3859.2, the power decreases by 1% for every additional 100 m.			
Ambient Temperature	10°C~40°C (may derate capacity if ambient temperature exceeds 45°C)			
Relative Humidity	5% to 95%, non-condensing			
Protection Class	Ip20			

**Lower your utility bills starting on the day the equipment is installed, fast and easily, minimizing downtime**



## Features & Benefits

- Voltage rating from 240 to 1000V
- Harmonic filtering for optimum power quality
- Lower utility bills
- Reduced operating costs
- Efficient use of utility power
- Quick return of investment(ROI)
- Easy to install
- Minimal Maintenance requirements



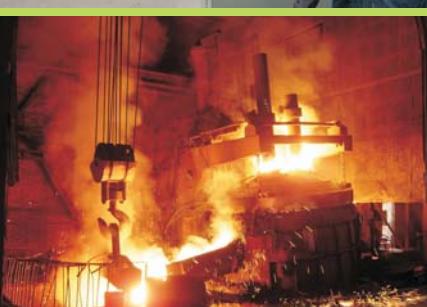
## Applications

- Automotive
- Food & Beverages
- Minerals & Metals
- Water Treatment
- Oil & Gas
- Industrial Manufacturing



## Ratings

<b>Voltages</b>	Customized up to 1500V
<b>Power Factor Compensation</b>	≥0. 95
<b>Energy Saving</b>	5-30%
<b>Harmonic Filtering</b>	5,7,11,13th harmonics over 70%, THD<5%



**Power Factor Correction  
LBJ Series  
Three Phase  
100-2000 KVar**

## LBJ-F Series Reactive Power Compensation/Harmonic Filter

### Overview

The traditional way for reactive power compensation is switch on the capacitors which are in parallel connection. But if load is un-linear one, which means low power factor and also the branch capacitors will cause the harmonic current to be amplified, resulting in the damage of capacitors and the power compensation cabinet can not work. The above problem can be avoided by L-C(reactance and capacitor) type filter. It is applied with capacitor branch series connection with reactors whose common reactance ratio is 5.5%, 7%, 8%, 12.5% and 14%. L-C type not only can avoid the amplification of harmonic current but also improve power factor, thus reducing energy losses on the transmission line and save energy. It is especially applied requirements for reactive power compensation mainly and suppresses harmonics secondly.

Model	Rated Voltage	Rated Capacity	Power Factor	Reactance Ratio	Dimension (W×D×H)
LBJ-F-300KVar	0.4~1KV	300KVar	≥0.95	6%	1000×600×2200
LBJ-F-400KVar	0.4~1KV	400KVar	≥0.95	6%	1000×800×2200
LBJ-F-500KVar	0.4~1KV	500KVar	≥0.95	6%	1200×800×2200
LBJ-F-600KVar	0.4~1KV	600KVar	≥0.95	6%	1200×800×2200

## LBJ-T Series General Use Power Filter

### Overview

DFC-T series General Use Power Filter is parallel L-C (reactance and capacitor) type applying the series resonance theory. When resonance occurs, the system takes on low impedance to harmonic of certain order, making the harmonic current flow into the harmonic filtering system. Typical harmonic orders are 5th, 7th, 11th, at the same time, the capacitors can compensate reactive power. All these combined to make power factor, harmonic current and harmonic voltage comply with public power grid standard. This kind of filter is widely used in metallurgical industry, mine, construction, chemical industry, auto industry, electrochemical medical industries etc.

Model	Rated Voltage	Harmonics Order	Power Factor	THD	Dimension (W×D×H)
LBJ-T-400KVar	0.4~1KV	5 <sup>th</sup> 7 <sup>th</sup> 11 <sup>th</sup>	≥0.95	<5%	1000×600×2200
LBJ-T-500KVar	0.4~1KV	5 <sup>th</sup> 7 <sup>th</sup> 11 <sup>th</sup>	≥0.95	<5%	1000×800×2200
LBJ-T-600KVar	0.4~1KV	5 <sup>th</sup> 7 <sup>th</sup> 11 <sup>th</sup>	≥0.95	<5%	1200×800×2200
LBJ-T-800KVar	0.4~1KV	5 <sup>th</sup> 7 <sup>th</sup> 11 <sup>th</sup>	≥0.95	<5%	1200×800×2200

**Effectively eliminate 3rd harmonics and reduce input and output neutral current to 0 A**



**Neutral Current Eliminator  
DFC-CW Series  
Three Phase  
30 - 1000 A**

## Features & Benefits

- Diverts the flow of harmonic current away from neutral
- Reduce high neutral current
- Reduce loss and operating temperature
- Save energy by reducing harmonic losses
- Prevent hidden dangers caused by harmonics
- Easy installation, high reliable and maintenance free

## Applications

- Big commercial LED monitor, LED lights
- Commercial and office buildings
- Data center, shopping malls
- Industrial factories
- Any places that have high neutral current issues

## Models & Specifications

Model	Max Working Current	Working Voltage	Efficiency	Insulation Class	Insulation Resistance
DFC-CW-30A	30A				
DFC-CW-60A	60A				
DFC-CW-90A	90A				
DFC-CW-150A	150A				
DFC-CW-200A	200A				
DFC-CW-300A	300A	380V±30%, or can be custom designed	100% reduce neutral line current to 0A, 3rd harmonic reduction ≥90%	Class H or C	≥20MΩ
DFC-CW-400A	400A				
DFC-CW-500A	500A				
DFC-CW-600A	600A				
DFC-CW-800A	800A				
DFC-CW-1000A	1000A				

**Surge Protector Device(SPD)**

**D F L - D / D F L - S Series**

**Single Phase / Three Phase**

**1 5 - 1 0 0 K A**

**Prevent critical electrical devices from high danger of loss when lightning occurs in single phase and three phase systems**



## Features & Benefits

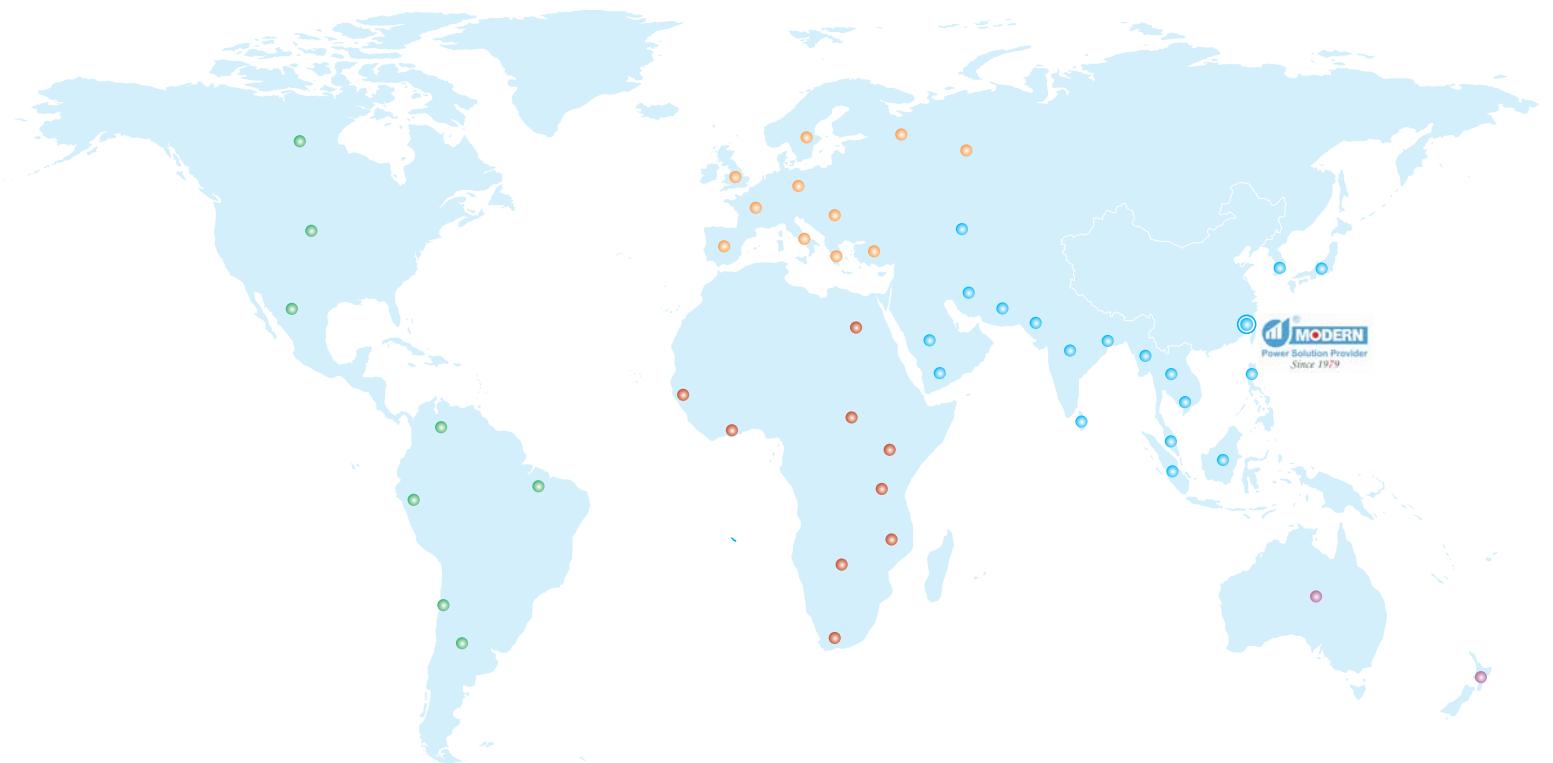
- High rated discharge capacity
- Fast response time:  $\leq 25$  ns
- Easy installation
- LED display: Indicates operation status
- Repeat useable: Can repeat normally work after frequent lightning
- Maintenance-free: Satisfy the demand of remote unmanned operated station
- Long life: Operation life up to 20 years

## Applications

- Sensitive electronic equipment
- Data center
- Telecom center
- UPS room
- Intelligent mansion
- Medical institute

## Models & Specifications

Model	Working Voltage	Rated Surge Current	Max Surge Current	Size(mm)	Weight
DFL1-D	220V	40KA	80KA	280X160X70	3kg
DFL2-D	220V	20KA	40KA	250X150X55	1.8kg
DFL3-D	220V	15KA	25KA	200X110X40	1.2kg
DFL1-S	380V	40KA	80KA	350X240X95	8kg
DFL2-S	380V	20KA	40KA	250X160X85	4kg
DFL3-S	380V	15KA	25KA	225X130X80	3kg



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