



ELECTRONICS CONTACTLESS AVR
SERVO CONTROLLED AVR
PATENTED TECHNOLOGY
POWER RANGE 1-2000KVA
HEAVY DUTY CLASS (INDUSTRIAL GRADE)



HEAVY DUTY VOLTAGE STABILIZER

YOUR POWER STABILITY IS OUR BREATH





LOCAL AREA NETWORKS (LAN)



SERVERS



DATA CENTERS



TELECOM-MUNICATION DEVICES



E-BUSINESS (Servers Farms, ISP/ASP/POP)



INDUSTRIAL PROCESSES



INDUSTRIAL PLCs



ELECTRO-MEDICAL DEVICES



EMERGENCY DEVICES (Lights/Alarms)

NCX Series (Contactless)

HEAVY DUTY CLASS VOLTAGE STABILIZER

10 to 2000 KVA (3Ph in / 3Ph Out)



CONTACTLESS TECHNOLOGY & MAINTENANCE FREE

Arakawa NCX series electronic voltage regulator consists of compensation circuit, voltage regulating circuit, control circuit, input sampling circuit, output sampling circuit, protection circuit and bypass circuit.

It has a simple structure which has no servo, chain, and gear transmission system. Its mechanical fault is zero so it is maintenance-free for a long time.

The main circuit, which adopts multiple compensation transformer combination, can achieve stable voltage by contactless switch of thyristor and completely avoid the maintenance of brush wear as well as high frequency interference cause by brush contact spark. Therefore, it has long service life more than 100,000 MTBF hours.

EXCELLENT VOLTAGE STABILITY

Arakawa has been researching and developing Power Stabilizer technologies for critical applications, worldwide and for many years. Arakawa solutions are flexible, offering the highest levels of availability, whilst achieving low total cost of ownership.

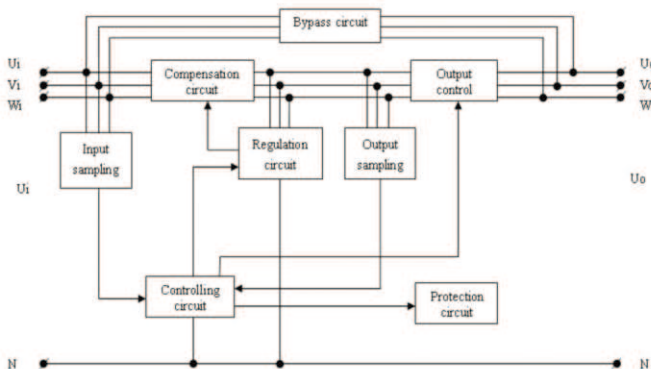
Arakawa Power Stabilizers are designed for ease of installation and maintenance, with simple but secure wiring system.

Excellent Voltage Stability will be our assurance, guaranteed by Arakawa's advanced R&D on voltage stabilizing technology. NCX Series technology are extra fast response less than 40ms provide you excellent voltage stability which you can't get from common type stabilizer.

PERFORMANCE BY TECHNOLOGY

Arakawa NCX series electronic voltage regulator are suitable for a wide range of applications such as IT servers, telecommunications, commercial business, light industry, heavy industry, medical, laboratory, etc.

NCX series adopt power electronics technology and semiconductor (SCR) in order to assuring that power device can be accurately controlled and reliably operated. The semiconductor device has lot of advantages such as high efficiency, well control performance, small size, light weight and reliability. Todays main direction of big power voltage stabilizer is to upgrade the voltage stabilizer with power electronics technology.



NCX series principle diagram

NCX series voltage stabilizer is combined with :

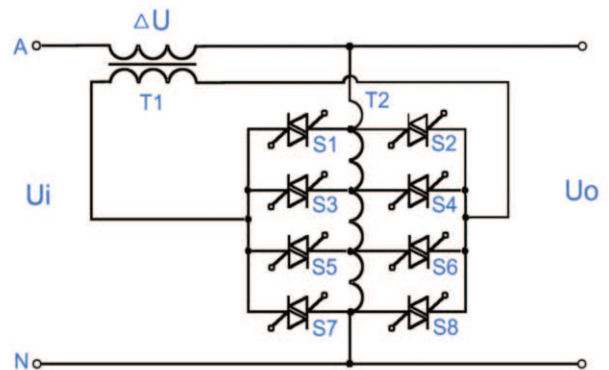
- Compensation Circuit
- Voltage Regulation Circuit
- Controlling Circuit
- Input Sampling Circuit
- Output Sampling Circuit
- Output Controlling Circuit
- Protection Circuit
- Bypass Circuit

The working process is when input voltage or load changes, obtains feedback voltage from every sampling circuit, compares and judges with standard voltage, then controlling circuit outputs controlling signal, controls, the thyristor in regulation circuit to conduct, makes the compensation circuit generate different polar and voltages to compensate, it realizes outputting voltage reliably.

At the same time, the controlling circuit controls the protection circuit and output controlling circuit to make corresponding moves.

PATENTED CONSTRUCTION

NCX Series construction switches the tapping of auto-transformer by controlling the on and off of double-direction-SCR, thereby changes the compensated voltage and polar of compensation transformer in order to output voltage reliably.



NCX series patented construction

ADVANTAGES

NCX series are the highest level of voltage stabilizer technology available today. NCX series is the result of more than 10 years research to reduce the disadvantages of the traditional stabilizer (servo type, magnetism compensated type, oil immersed type, parameter type, etc). By applying NCX series the advantages is :

- Extremely fast regulation (Automatic)
It just need 40ms to stable the output voltage which servo type stabilizer need 7 second to complete the regulation).
- Contactless Technology
The regulation are without carbon brush friction and servo motor operation. 80% faults of the carbon brush stabilizer are resulted in by the servomotor drive and carbon brush).
- Maintenance Free
No regular maintenance needed. No consumables. It can run without maintenance for 100,000 MTBF hours.
- Three Separated Regulation
It apply separated regulation for each phase and adaption to the three phase unbalance load. Traditional stabilizers adopt joined regulation that cause big power loss for compensation.
- Highest Compensation
Highest compensation can reach $\pm 50\%$. The highest compensation of traditional stabilizers just reach $\pm 30\%$.
- Highest Efficiency
The efficiency can reach 99%. The highest efficiency of traditional stabilizers are below 96%.
- High Quality Purified Power
Regulation process without wave-distorsion and power-off which is applied to computer and precision electronic equipment.
- Safety
With Lightning-Proof and wave-filter function, depresses surge and filter harmonic waves.



DETAILS SPECIFICATION

Models	Power (KVA)	Rated current (A)	Input (V)	Output (V)	Dimension (mm)	Weight (kg)	Cross sectional area of cables (mm ²)
NCX-10	10	15	266-494 (Standard ±30% for 3 phase 380V) Customized from 10% to 50% voltage range	380 (standard) Another voltage available	600*420*1280	142	3×1.5+1×1.0
NCX-15	15	23				157	3×4+1×2.5
NCX-20	20	30				200	3×10+1×6
NCX-30	30	46			650*520*1380	208	3×16+1×6
NCX-50	50	76				340	3×35+1×10
NCX-75	75	114			750*550*1700	380	3×50+1×16
NCX-100	100	152				580	3×70+1×25
NCX-150	150	228			900*700*1800	620	3×95+1×35
NCX-180	180	273				880	3×150+1×35
NCX-225	225	342			1100*850*2000	930	Copper bus bar connecting
NCX-320	320	486				1240	
NCX-400	400	608			1200*1000*2200	1350	
NCX-500	500	760				1500	
NCX-600	600	912			1000*1000*2200 Double cabinets	1820	
NCX-800	800	1215				1980	
NCX-1000	1000	1519			1200*1000*2200 Double cabinets	2300	
NCX-1200	1200	1823				2600	
NCX-1400	1400	2127			1300*1000*2200 1200*1000*2200 1100*1000*2200 Three cabinets	2750	
NCX-1600	1600	2430	2900				
NCX-1800	1800	2735	3100				
NCX-2000	2000	3038					

GENERAL SPECIFICATION

Number of phases	3	Humidity	≤ 90%
Frequency	50/60HZ	Altitude	<1000m
Noise	<50dB	Temperature Rise	Transformer winding < 80°C
Voltage accuracy	±1%(10-225KVA) ±2%(320-2000KVA)	Insulation Resistance	≥2MΩ
Efficiency	>98%	Protection	IP20
Response time	≤ 40ms	Color	RAL 7035
Output waveform	No harmonic distortion	Insulation Strength	Input and output AC voltage 2000V/1min
Ambient Temperature	-15°C / +45°C		

** The Specification are subject to change for improvement without prior notification.

** Arakawa provide a very special voltage stabilizer requirements, please contact our authorized dealer.



LOCAL AREA NETWORKS (LAN)



SERVERS



DATA CENTERS



TELECOMMUNICATION DEVICES



E-BUSINESS (Servers Farms, ISP/ASP/POP)



INDUSTRIAL PROCESSES



INDUSTRIAL PLCS



ELECTRO-MEDICAL DEVICES

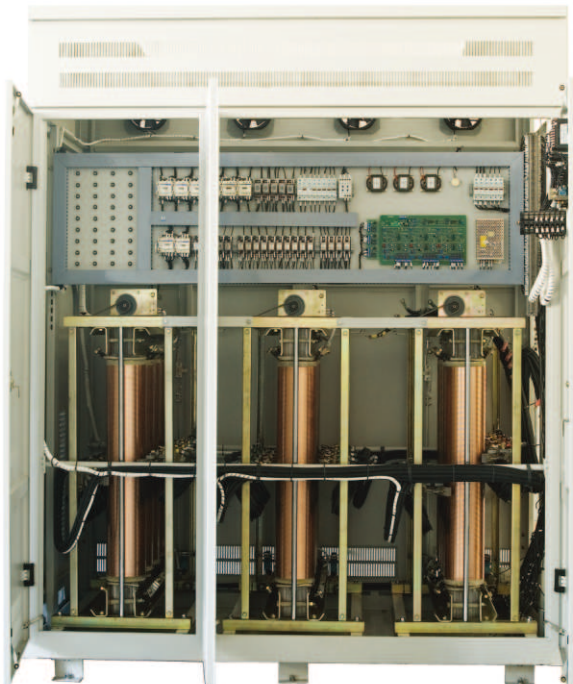


EMERGENCY DEVICES (Lights/Alarms)

PDX Series (Contact)

HEAVY DUTY CLASS VOLTAGE STABILIZER

10 to 1800 KVA (3Ph in / 3Ph Out)



CONTACT TYPE VOLTAGE STABILIZER

Arakawa introduce PDX series which is the best contact type voltage stabilizer today. It's differ with common voltage stabilizer. It have many advantages as the result of long R&D. It has stepless voltage regulation, stable output, no wave distortion and no harmonic increment. PDX Series are the best choice for low total cost of ownership for heavy duty voltage stabilizer for all application.

Arakawa Power Stabilizers are designed for ease of installation and maintenance, with simple but secure wiring system.

Automatic voltage stabilizer

PDX compensation type automatic voltage stabilizer consists of compensation transformer, regulating transformer, transmission mechanism, electric brush contact system, as well as box and simulation control system. It has stepless voltage regulation, stable output, no wave distortion and no harmonic increment.

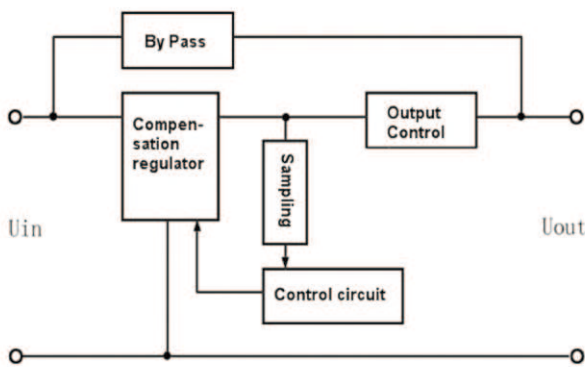
The product has 1% to 5% adjustable accuracy as well as $\pm 10\%$ to $\pm 50\%$ compensation range. Its capacity 10 to 1800 KVA respectively. In addition, its efficiency can reach more than 96%. The product is stable and reliable, and comes with all the power protection function.

Compensation and regulation products adopt a ring-shaped disk type under 30KVA and the three-phase which is all adjustable. In contrast, compensation transformer uses E type product while regulating product adopts winding cylinder type which is above 50KVA. The three-phase is adjusted uniformly and can also be adjusted based on users' requirements.

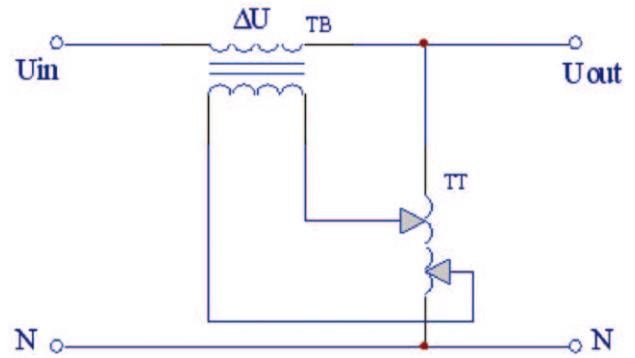
The transmission mechanism of the product is composed of servo motor and sprocket chain. Its power on mode consists of automatic mode and manual mode. When the output voltage is greater than the rated value, the voltage stabilizer can automatically bypass or cut off the output and then send out sound and light alarm.

Circuit structure and working principle

PDX automatic voltage stabilizer consists of compensation voltage circuit, control circuit, sampling circuit, output control and bypass circuit. Compensation voltage stabilizing circuit, control circuit and sampling circuit form automatic compensation voltage-stabilizing system.



PDX series principle diagram



NCX series construction

ADVANTAGES

PDX Series are the best contact type voltage stabilizer. It resulted from more than 20 years solid experience in contact type voltage stabilizer continuous research and development as the result :

- **Fast regulation (Automatic)**
Response time less than 1.5s to stable the output voltage which common type stabilizer need 7 second to complete the regulation).
- **Over and under voltage protective**
When the output line voltage exceed peak or below lowest, several seconds delay, the machine automatic turn into "By Pass" mode, at the mean time, the value of input voltage equals to the output voltage, Buzzer alarm continuously and the yellow indicator is illuminated.
- **Fault protection**
When the regulator component generates failure, regulator will automatically switch to bypass or cut off the output and send out sound and light alarm. The value of input voltage equals to the output voltage, Buzzer alarm continuously and the yellow indicator is illuminated.
- **Phase loss and phase sequence protection**
When the three-phase output power produces phase -lack or fault phase, regulator will automatically cut off the output voltage
- **Highest Compensation**
Highest compensation can reach $\pm 50\%$. The highest compensation of traditional stabilizers just reach $\pm 30\%$.
- **High Efficiency**
The efficiency can reach more than 96%. The highest efficiency of traditional contact type stabilizers are below 96%.
- **High Quality Purified Power**
Regulation process without wave-distorsion and power-off which is applied to computer and precision electronic equipment.
- **Safety**
With Lightning-Proof and wave-filter function, depresses surge and filter harmonic waves.

DETAILS SPECIFICATION

Models	Power (KVA)	Rated current (A)	Input (V)	Output (V)	Dimension (mm)	Weight (kg)	Cross sectional area of cables (mm ²)
PDX-10	10	15	304-456 (Standard ±20% for 3 phase 380V) Customized from 10% to 50% voltage range	380 (standard) Another voltage available	650*420*1050	130	3×1.5+1×1.0
PDX-15	15	23				160	3×4+1×2.5
PDX-20	20	30				180	3×10+1×6
PDX-30	30	46			700*480*1100	200	3×16+1×6
PDX-50	50	76				270	3×35+1×10
PDX-75	75	114			900*750*1500	290	3×50+1×16
PDX-100	100	152				400	3×70+1×25
PDX-150	150	228			1050*750*1800	580	3×95+1×35
PDX-180	180	273				720	3×150+1×35
PDX-225	225	342				1200*900*2200	900
PDX-320	320	486			1140		
PDX-400	400	608			Main:1200*1000*2200 Side :800*1000*2200	1190	
PDX-500	500	760			1250		
PDX-600	600	912			Main:1200*1000*2200 Side :1400*1000*2200	1600	
PDX-800	800	1215			1800		
PDX-1000	1000	1519			Main:1100*1000*2200 Side :1200*1000*2200 Side :1200*1000*2200	2200	
PDX-1200	1200	1823			2400		
PDX-1400	1400	2127			Main:1350*1000*2200 Side :1450*1000*2200 Side :1450*1000*2200	2600	
PDX-1600	1600	2430	2800				
PDX-1800	1800	2735					

GENERAL SPECIFICATION

Number of phases	3	Humidity	≤90%
Frequency	50/60HZ	Altitude	<1000m
Noise	<65dB	Temperature Rise	Transformer winding < 80°C
Voltage accuracy	±(1-5)%, can be set	Insulation Resistance	≥2MΩ
Efficiency	>96%	Protection	IP20
Response time	≤500ms	Color	RAL 7035
Output waveform	No harmonic distortion	Insulation Strength	Input and output AC voltage 2000V/1min
Ambient Temperature	-15°C / +45°C		

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PDR Full-Automatic Compensated 3Phase Series

Feature

This series large power voltage stabilizer is an energy-saving new product developed by our company by absorbing the advanced technology of Western Europe. It is provided with two systems of manual/automatic dual control, direct output and stabilizing output, with the functions of over/under-voltage protection, delay and error protection etc, it is reliable and suitable for any load.

Application

It is widely used in the place with large electricity demands such as factories, post&Communication, schools, hotel etc. Acted as whole voltage-stabilizing or single voltage-stabilizing.

Specification

20KVA/30KVA/50KVA/60KVA



Model	Rated Power (KVA)	Output max current(A)	Package size DxWxH(cm)	Qty per pkg (unit)
PDR-20KVA	20	30	87 × 61 × 145	1
PDR-30KVA	30	45	87 × 61 × 145	1
PDR-50KVA	50	75	87 × 61 × 145	1
PDR-60KVA	60	90	87 × 61 × 145	1
Input voltage	Phase voltage 220V±20%, wire voltage 380V±20% or Phase voltage 220V±30%, wire voltage 380V±30%(Optional)			
Output voltage	Phase voltage 220V, wire voltage 380V			
Accuracy of voltage	± 2-5%(adjustable)			
Frequency	50Hz/60Hz			
Protection	Over voltage, over current, phase failure, phase sequence, machine fault indication			
Efficiency	> 95%			
Response time	≤ 1.5S			

80KVA/100KVA/120KVA



Model	Rated Power (KVA)	Output max current(A)	Package size DxWxH(cm)	Qty per pkg (unit)
PDR-80KVA	80	120	92 × 71 × 163	1
PDR-100KVA	100	150	92 × 71 × 163	1
PDR-120KVA	120	180	92 × 71 × 163	1
Input voltage	Phase voltage 220V±20%, wire voltage 380V±20% or Phase voltage 220V±30%, wire voltage 380V±30%(Optional)			
Output voltage	Phase voltage 220V, wire voltage 380V			
Accuracy of voltage	± 2-5%(adjustable)			
Frequency	50Hz/60Hz			
Protection	Over voltage, over current, phase failure, phase fault indication			
Efficiency	> 95%			
Response time	≤ 1.5S			

150KVA/180KVA/200KVA



Model	Rated Power (KVA)	Output max current(A)	Package size DxWxH(cm)	Qty per pkg (unit)
PDR-150KVA	150	225	106 × 78 × 176	1
PDR-180KVA	180	270	106 × 78 × 176	1
PDR-200KVA	200	300	106 × 78 × 176	1
Input voltage	Phase voltage 220V±20%, wire voltage 380V±20% or Phase voltage 220V±30%, wire voltage 380V±30%(Optional)			
Output voltage	Phase voltage 220V, wire voltage 380V			
Accuracy of voltage	± 2-5%(adjustable)			
Frequency	50Hz/60Hz			
Protection	Over voltage, over current, phase failure, phase sequence, machine fault indication			
Efficiency	> 95%			
Response time	≤ 1.5S			

PDR Full-Automatic Compensated 3Phase Series



250KVA/300KVA/320KVA/350KVA

Model	Rated Power (KVA)	Output max current(A)	Package size DxWxH(cm)	Qty per pkg (unit)
PDR-250KVA	250	375	116 × 88 × 186	1
PDR-300KVA	300	450	116 × 88 × 186	1
PDR-320KVA	320	480	116 × 88 × 186	1
PDR-350KVA	350	525	116 × 88 × 186	1

Input voltage	Phase voltage 220V±20%, wire voltage 380V±20% or Phase voltage 220V±30%, wire voltage 380V±30%(Optional)
Output voltage	Phase voltage 220V, wire voltage 380V
Accuracy of voltage	±2-5%(adjustable)
Frequency	50Hz/60Hz
Protection	Over voltage, over current, phase failure, phase sequence, machine fault indication
Efficiency	> 95%
Response time	≤ 1.5S



400KVA/450KVA

Model	Rated Power (KVA)	Output max current(A)	Package size DxWxH(cm)	Qty per pkg (unit)
PDR-400KVA	400	600	126 × 103 × 216	1
PDR-450KVA	450	675	126 × 103 × 216	1

Input voltage	Phase voltage 220V±20%, wire voltage 380V±20% or Phase voltage 220V±30%, wire voltage 380V±30%(Optional)
Output voltage	Phase voltage 220V, wire voltage 380V
Accuracy of voltage	±2-5%(adjustable)
Frequency	50Hz/60Hz
Protection	Over voltage, over current, phase failure, phase sequence, machine fault indication
Efficiency	> 95%
Response time	≤ 1.5S



500KVA/600KVA/800KVA

Model	Rated Power (KVA)	Output max current(A)	Package size DxWxH(cm)	Qty per pkg (unit)
PDR-500KVA	500	750	128 × 113 × 216	1
PDR-600KVA	600	900	128 × 113 × 216	1
PDR-800KVA	800	1200	95 × 110 × 200 (2Cabinets)	1

Input voltage	Phase voltage 220V±20%, wire voltage 380V±20% or Phase voltage 220V±30%, wire voltage 380V±30%(Optional)
Output voltage	Phase voltage 220V, wire voltage 380V
Accuracy of voltage	±2-5%(adjustable)
Frequency	50Hz/60Hz
Protection	Over voltage, over current, phase failure, phase sequence, machine fault indication
Efficiency	> 95%
Response time	≤ 1.5S



FD Series Contactless Precision Purified 1 Phase
Feature

FD series contactless precise purifying AC power supply adopts the power regulation technology of sinewave energy distribution formula, which is advanced in the world and represents the latest development of AC stabilizing technology. Its circuit is composed of sinewave energy distributor and large power wave filter by paralleling. It has the advantages as high accuracy of stabilization, strong overload capacity, high efficiency, successively working for long period and long service time. It is an ideal replacement for common voltage stabilizer, also it can provide a quiet and reliable working environment. With faster response time than servo type stabilizer it really gives extra stable voltage.

Application

It is suitable for computer network, electronic instruments, hospital equipments, research center, measurement and test devices, factory test board, home applications, etc.

Specification
0.5KVA / 1KVA


Input Voltage	175V - 260V	Waveform Distortion	< 5%
Output Voltage	220V	Ambient Temp.	-10°C ~ +40°C
Accuracy of Voltage	± 1%	Efficiency	> 90%
Frequency	50 ± 2Hz	Dimension	39 x 23 x 32cm
Response Time	20ms - 100ms	Qty per Pkg	1 Unit

2KVA/3KVA


Input Voltage	175V - 260V	Waveform Distortion	< 5%
Output Voltage	220V	Ambient Temp.	-10°C ~ +40°C
Accuracy of Voltage	± 1%	Efficiency	> 90%
Frequency	50 ± 2Hz	Dimension	45 x 25 x 38cm
Response Time	20ms - 100ms	Qty per Pkg	1 Unit

5KVA/6KVA


Input Voltage	175V - 260V	Waveform Distortion	< 5%
Output Voltage	220V	Ambient Temp.	-10°C ~ +40°C
Accuracy of Voltage	± 1%	Efficiency	> 90%
Frequency	50 ± 2Hz	Dimension	52 x 29 x 42cm
Response Time	20ms - 100ms	Qty per Pkg	1 Unit

8KVA/10KVA


Input Voltage	175V - 260V	Waveform Distortion	< 5%
Output Voltage	220V	Ambient Temp.	-10°C ~ +40°C
Accuracy of Voltage	± 1%	Efficiency	> 90%
Frequency	50 ± 2Hz	Dimension	56 x 31 x 46cm
Response Time	20ms - 100ms	Qty per Pkg	1 Unit

FD Series Contactless Precision Purified 1 Phase



15KVA / 20KVA

Input Voltage	175V - 260V	Waveform Distortion	< 5%
Output Voltage	220V	Ambient Temp.	-10°C ~ +40°C
Accuracy of Voltage	± 1%	Efficiency	> 90%
Frequency	50 ± 2Hz	Dimension	66 x 34 x 50cm
Response Time	20ms - 100ms	Qty per Pkg	1 Unit



30KVA

Input Voltage	175V - 260V	Waveform Distortion	< 5%
Output Voltage	220V	Ambient Temp.	-10°C ~ +40°C
Accuracy of Voltage	± 1%	Efficiency	> 90%
Frequency	50 ± 2Hz	Dimension	70 x 40 x 55cm
Response Time	20ms - 100ms	Qty per Pkg	1 Unit

◆ All specifications subject to change without notice.

PDS Servo Type 3Phase Series



10KVA

Input voltage	280V-430V(Three phase four wire)	Relative humidity	< 95%
Output voltage	Wire voltage 380V, phase voltage 220V	Ambient temperature	-10°C ~ +40°C
Accuracy of voltage	±2.5%	Efficiency	> 90%
Frequency	50Hz/60Hz	Package size D × W × H(cm)	40 × 46 × 86
Response time	≤ 1.5S	Qty per pkg(unit)	1



15KVA

Input voltage	280V-430V(Three phase four wire)	Relative humidity	< 95%
Output voltage	Wire voltage 380V, phase voltage 220V	Ambient temperature	-10°C ~ +40°C
Accuracy of voltage	±2.5%	Efficiency	> 90%
Frequency	50Hz/60Hz	Package size D × W × H(cm)	48 × 51 × 86
Response time	≤ 1.5S	Qty per pkg(unit)	1



20/30KVA

Input voltage	280V-430V(Three phase four wire)	Relative humidity	< 95%
Output voltage	Wire voltage 380V, phase voltage 220V	Ambient temperature	-10°C ~ +40°C
Accuracy of voltage	±2.5%	Efficiency	> 90%
Frequency	50Hz/60Hz	Package size D × W × H(cm)	55 × 59 × 95
Response time	≤ 1.5S	Qty per pkg(unit)	1



45KVA / 60KVA / 80KVA / 100KVA

Input voltage	280V-430V(Three phase four wire)	Relative humidity	< 95%
Output voltage	Wire voltage 380V, phase voltage 220V	Ambient temperature	-10°C ~ +40°C
Accuracy of voltage	±2.5%	Efficiency	> 90%
Frequency	50Hz/60Hz	Package size D × W × H(cm)	70 × 80 × 140
Response time	≤ 1.5S	Qty per pkg(unit)	1



FS Servo Type 1Phase Series

2KVA



Input voltage	160V-250V	Relative humidity	< 95%
Output voltage	220V/110V	Ambient temperature	-10°C ~ +40°C
Accuracy of voltage	±2.5%	Efficiency	> 90%
Frequency	50Hz/60Hz	Package size D x W x H(cm)	61 x 36 x 28
Response time	≤ 1.5S	Qty per pkg(unit)	2

3KVA



Input voltage	160V-250V	Relative humidity	< 95%
Output voltage	220V/110V	Ambient temperature	-10°C ~ +40°C
Accuracy of voltage	±2.5%	Efficiency	> 90%
Frequency	50Hz/60Hz	Package size D x W x H(cm)	61 x 39 x 31
Response time	≤ 1.5S	Qty per pkg(unit)	2

5KVA (Vertical Type)



Input voltage	160V-250V	Relative humidity	< 95%
Output voltage	220V	Ambient temperature	-10°C ~ +40°C
Accuracy of voltage	±2.5%	Efficiency	> 90%
Frequency	50Hz/60Hz	Package size D x W x H(cm)	32 x 35 x 51
Response time	≤ 1.5S	Qty per pkg(unit)	1

7.5KVA / 10KVA (Vertical Type)



Input voltage	160V-250V	Relative humidity	< 95%
Output voltage	220V	Ambient temperature	-10°C ~ +40°C
Accuracy of voltage	±2.5%	Efficiency	> 90%
Frequency	50Hz/60Hz	Package size D x W x H(cm)	32 x 35 x 52
Response time	≤ 1.5S	Qty per pkg(unit)	1





DISTRIBUTOR :