

HertzKron

Power Factor Correction Equipment
Low Voltage

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Power Factor Controllers



HK-PFX Series

Overview

The PFX series represents the next generation of intelligent control units engineered specifically for automatic power factor correction systems. Operating via a high-performance microprocessor, the device continuously monitors the grid's electrical parameters, processes real-time reactive power demand, and manages the precise connecting and disconnecting of capacitor or reactor steps to achieve the optimized target cosine ϕ .

Beyond standard reactive compensation regulation, the PFX series functions as a comprehensive network analyzer, tracking and visualizing essential power quality parameters to ensure comprehensive grid diagnostics.

Key Features

Advanced Microprocessor Algorithm

Utilizes dynamic switching matrix optimization to guarantee precise target power factor control while ensuring uniform step wear and minimizing switching transients.

Full

Network Analysis

Real-time calculation and high-accuracy measurement of voltage, current, active/reactive/apparent power, and total harmonic distortion (THD).

Flexible Configuration Matrix

Available in versatile step expansion setups to accommodate diverse cabinet

topologies:

- PFX-6: Engineered with 6 optimized output relays for compact system integration.
- PFX-12: Configured with 12 high-capacity output relays for large-scale, multi-step automatic compensation banks.

Comprehensive Protective Supervision

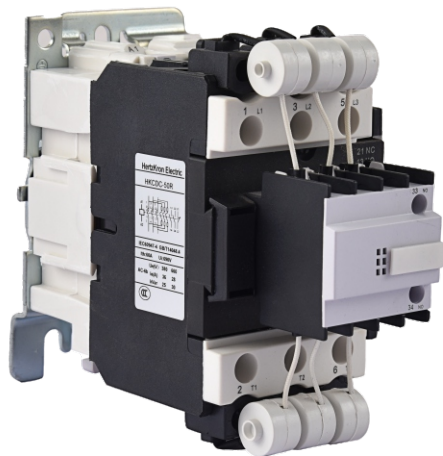
Embedded with advanced threshold monitoring for overvoltage, undervoltage, harmonic overcurrent, and overtemperature, enabling automatic safe step-disconnection during critical grid anomalies.



Technical Data

Technical Data	Symbol	Unit	HK-PFX-6	HK-PFX-12
Panel Cutout Size	—	mm	113×113	120×114
Dimensions (W×H×D)	—	mm	120×120×70	124×127×70
Weight	m	kg	1.5	1.5
Control Supply Power	U	V AC	220±20% 50 Hz	220±20% 50 Hz
Sampling Voltage Input	U	V AC	380±20% (B, C phase)	380±20% (B, C phase)
Sampling Current Input	I	A	.../5 (Single-phase / A-phaseCT)	.../5 (Single-phase / A-phaseCT)
Switching Delay Time	t	s	1...999 (Programmable)	1...999 (Programmable)
Switching Control Logic	—	mm	Three-phase balanced compensation	Three-phase balanced compensation
Number of Control Steps	—	Unit	6	12
Controlled Object	—	Steps	Capacitor Duty Contactors	Capacitor Duty Contactors
Relay Contact Capacity	—	mm	AC 250 V/5 A	AC 250 V/5 A
Electrical Endurance of Output	—	Cycles	≥300,000	≥300,000
Communication Interface	—	—	Rs485 (Modbus-RTU)	Rs485 (Modbus-RTU)
HMI Display Type	—	—	High-clarity LED Segment Display	High-clarity LED Segment Display
Power Parameters Displayed	—	—	V, I, F, Q, P, S, ...	V, I, F, Q, P, S, cos ϕ , THDu, THDi, ...
Power Consumption Loss	p	w	<15	<15
Maximum Operating Altitude		m	≤2500 above sea level	≤2500 above sea level
Ambient Temperature Range	T	°C	−10 +60	−10 +60
Relative Ambient Humidity	—	—	20°C, RH <90% (Non-condensing)	20°C, RH <90% (Non-condensing)
EMC Anti-interference Class	—	—	In accordance with IEC 61000-4	In accordance with IEC 61000-4

Capacitor Duty Contactors



HK-CDC Series

Features

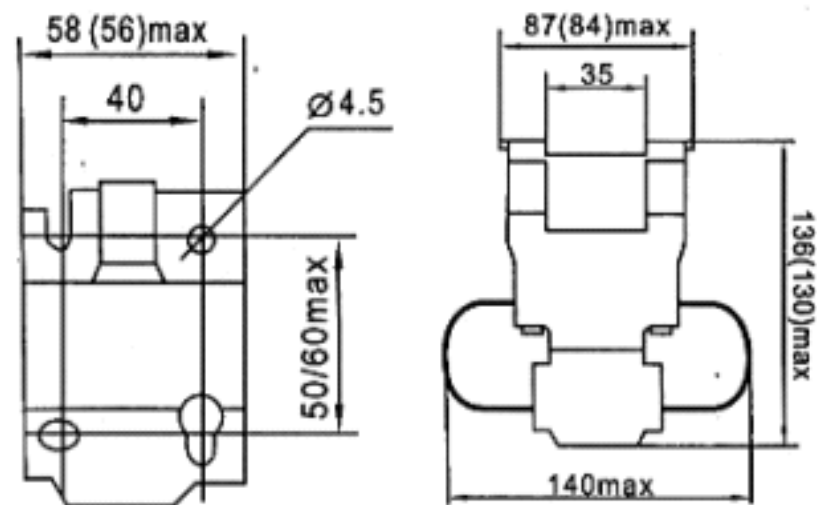
- Conforms to utilization category AC-6b: Specially certified for the heavy-duty, frequent switching of reactive low-voltage power factor correction (PFC) capacitor steps.
- **Standard control coil voltages:**
 - 220 V 50/60 Hz
 - 380 V 50/60 Hz
- **Advanced Inrush Current Suppression:** Equipped with early-make auxiliary contacts linked to high-capacity damping resistors, successfully mitigating destructive peak transient currents down to safety thresholds ($\leq 70 \cdot I_n$). Red.
- **uces watt losses during "ON" condition:** Engineered to minimize power consumption and thermal load inside dense cabinet enclosures, saving operational energy.
- **Extended Service Life:** Cushioning the electric contact-closing impact drastically reduces contact erosion, ensuring an exceptional electrical endurance.
- **High operational safety:** Fully sealed auxiliary mechanism prevents accidental touch and eliminates the risk of dangerous flashovers.
- **Optimized space-saving configuration:** Compact modular frame integrates resistors on top, eliminating the need for bulky external dampening loops.
- **Approvals & Standards:** CE certified, fully compliant with IEC/EN 60947-4-1.

Technical Data

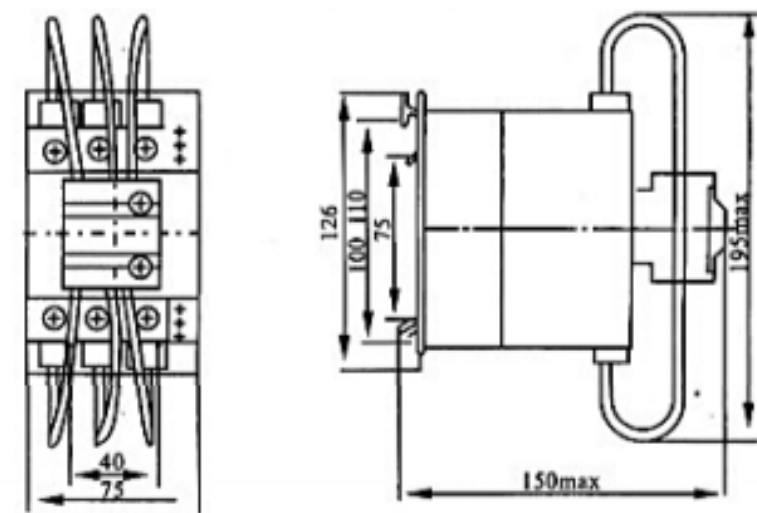
Specification	25	32	43	63	85	95
Under 230V, Qc (kvar) $\leq$	6	8	10	15	20	32
Under 400V, Qc (kvar) $\leq$	12	16	20	30	40	50
Ui (V)	500	500	500	500	500	500
Ue (V)	380	380	380	380	380	380
Ith (A)	25	32	43	58	85	95
AC-6b In (A)	17	26	29	43	58	72
Inrush Peak / Rated Capacitor Current	20 Ie	20 Ie	20 Ie	20 Ie	20 Ie	20 Ie
Control Coil Voltage (V)	220 / 380	220 / 380	220 / 380	220 / 380	220 / 380	220 / 380
Coil Insulation Class	Class B	Class B	Class B	Class B	Class B	Class B
Ith (A) for Auxiliary Contact	6	6	6	7	7	7
Operation Frequency	120 times/h	120 times/h	120 times/h	120 times/h	120 times/h	120 times/h
Electrical Life	10 ^{^5}	10 ^{^5}	10 ^{^5}	10 ^{^5}	10 ^{^5}	10 ^{^5}
Mechanical Life	10 ^{^6}	10 ^{^6}	10 ^{^6}	10 ^{^6}	10 ^{^6}	10 ^{^6}

Model Specifications

Model	Amax (mm)	Bmax (mm)	Cmax (mm)	Mounting E (mm)	Mounting F (mm)	Hole Φ (mm)	Installation Method
HK-CDC-25	90	58	132	76	35	4.5	Screw mounting or 35mm mounting rail
HK-CDC-32	90	58	132	86	40	4.5	
HK-CDC-43	90	58	136	86	40	4.5	
HK-CDC-63	132	79	150	-	-	-	Screw mounting or 75mm mounting rail
HK-CDC-85	135	87	158	-	-	-	
HK-CDC-95	135	87	158	-	-	-	

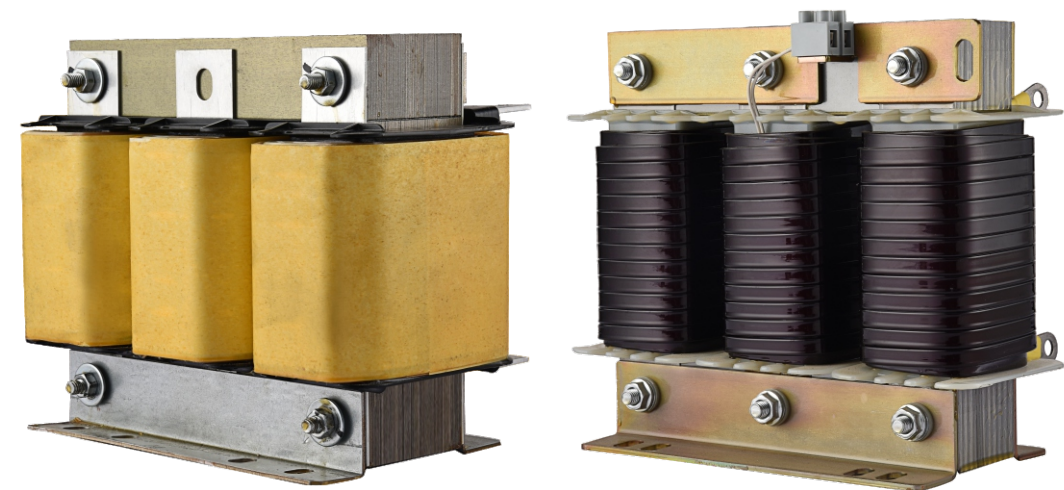


HK-CDC-25~43



HK-CDC -63~95

Detuned Reactors



HK-DRL Series

Overview

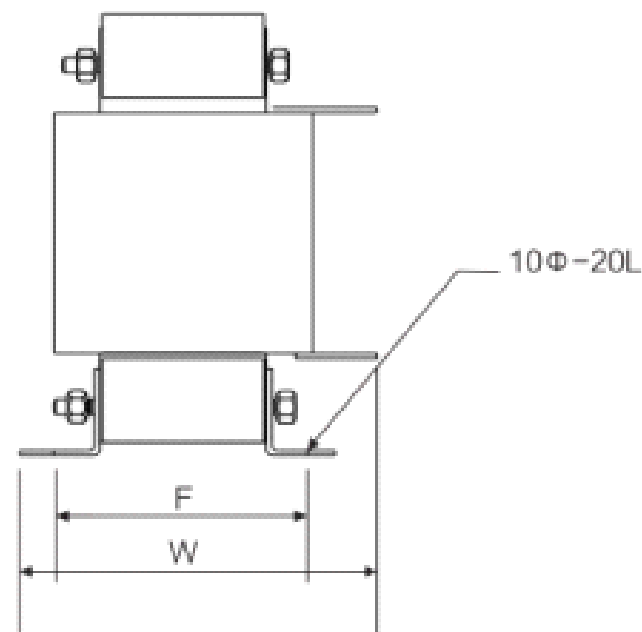
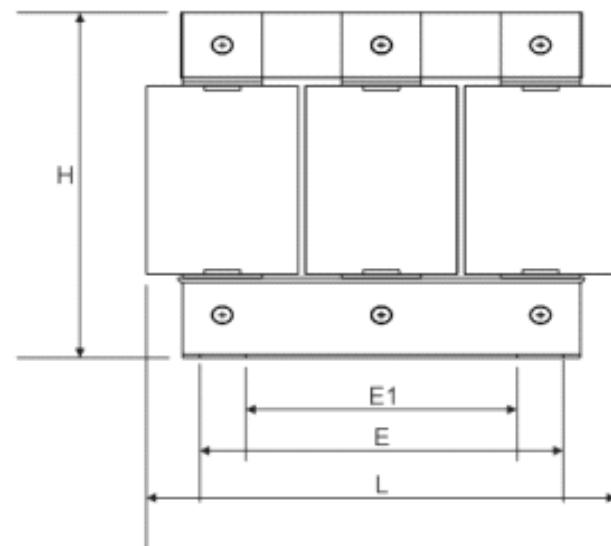
The HK-DRL series detuned reactors are engineered to protect power factor correction capacitors by preventing resonance and filtering harmonic distortion in low-voltage distribution grids. Designed in full compliance with IEC 60076 loss requirements, this series features low-loss iron cores and optimized low-resistance windings, utilizing vacuum impregnation technology to ensure minimal noise emission and maximum mechanical stability. With standard integrated thermal protection and Class H insulation, the HK-DRL series delivers reliable, heavy-duty performance and extended service life under severe operational stress in modern industrial environments.

Technical Data

Parameter	Symbol	Specification Value (HK-DRL Series)
Reference Standards	—	IEC 60076-6, EN 60076-6
Installation Site	—	Indoor use
Ambient Temperature	—	Maximum: +45 °C24-hour average limit: ≤ +35 °C
Insulation Class	—	Class H (180 °C)• Continuous rated current: 120%• Coil temperature rise: ≤ 60 °C (Resistance method)
Insulation Level	—	0.23 kV ~ 0.6 kV AC range: 4000 V AC / 1 minute
Over-temperature Protection	—	Integrated thermal micro-switch(Normally Closed / NC contact)
Rated Frequency	f_n	5.4%, 5.67%, 6%, 7%, 13%, 13.7%, 14%, 14.8% etc.
Output Capacity Tolerance	—	≤ 35 ~ 40 dB
Detuning Factors	p	50 Hz / 60 Hz
Acoustic Noise Level	—	0 ~ +10%
Inductance Linearity	L	Heavy-Duty High Linearity Design:• At $1.8 \times$ Rated Current (I_n): $L > 0.95$

Selection and Dimensions

System Parameters	Installed Capacity (kvar)	Reactor Model	Dimension L (mm)	Dimension W (mm)	Dimension H (mm)	Mounting Hole E (mm)	Mounting Hole F (mm)	Mounting Hole 4/DΦ (mm)	Weight (kg)	Capacitor Qc (kvar)
480V 7% Type A:In1.5;L>0.92 (Un=400V,Cn=480V,f=50Hz)	15	HK-DRL-480-15-7	230	120	160	150	90	10Φ9-20L	12	15
	20	HK-DRL-480-20-7	230	120	160	150	90	10Φ9-20L	12	20
	25	HK-DRL-480-25-7	230	120	180	150	90	10Φ9-20L	14	25
	30	HK-DRL-480-30-7	230	120	205	150	90	10Φ9-20L	16	15
	40	HK-DRL-480-40-7	250	120	240	150	90	10Φ9-20L	18	20
	50	HK-DRL-480-50-7	265	170	235	190	105	10Φ9-20L	24	25
	60	HK-DRL-480-60-7	265	170	235	190	105	10Φ9-20L	24	20
	80	HK-DRL-480-80-7	340	170	255	118	105	10Φ9-20L	35	20
480V, 7%, In1.8; L>0.95 (Un=400V, Cn=480V, f=50Hz)	15	HK-DRL-480-15-7	230	140	160	150	100	10Φ9-20L	12	15
	20	HK-DRL-480-20-7	230	140	160	150	100	10Φ9-20L	12	20
	25	HK-DRL-480-25-7	230	140	180	150	100	10Φ9-20L	14	25
	30	HK-DRL-480-30-7	230	140	205	150	100	10Φ9-20L	16	15
	40	HK-DRL-480-40-7	250	140	240	150	100	10Φ9-20L	18	20
	50	HK-DRL-480-50-7	265	190	235	190	115	10Φ9-20L	24	25
	60	HK-DRL-480-60-7	265	190	235	190	115	10Φ9-20L	24	20
	80	HK-DRL-480-80-7	340	190	255	118	115	10Φ9-20L	35	20
525V, 5.67%, In1.8; L>0.97 (Un=400V, Cn=525V, f=50Hz)	15	HK-DRL-525-15-5.67	230	140	160	150	100	10Φ9-20L	12	15
	20	HK-DRL-525-20-5.67	230	140	160	150	100	10Φ9-20L	12	20
	25	HK-DRL-525-25-5.67	230	140	180	150	100	10Φ9-20L	14	25
	30	HK-DRL-525-30-5.67	230	140	205	150	100	10Φ9-20L	16	15
	40	HK-DRL-525-40-5.67	250	140	240	150	100	10Φ9-20L	18	20
	50	HK-DRL-525-50-5.67	265	190	235	190	115	10Φ9-20L	24	25
	60	HK-DRL-525-60-5.67	265	190	235	190	115	10Φ9-20L	24	20
	80	HK-DRL-525-80-5.67	265	190	235	190	115	10Φ9-20L	28	20
525V, 7%, In1.8; L>0.95 (Un=400V, Cn=525V, f=50Hz)	15	HK-DRL-525-15-7	230	140	160	150	100	10Φ9-20L	12	15
	20	HK-DRL-525-20-7	230	140	160	150	100	10Φ9-20L	12	20
	25	HK-DRL-525-25-7	230	140	180	150	100	10Φ9-20L	14	25
	30	HK-DRL-525-30-7	230	140	205	150	100	10Φ9-20L	16	15
	40	HK-DRL-525-40-7	230	140	205	150	100	10Φ9-20L	16	20
	50	HK-DRL-525-50-7	250	140	240	150	100	10Φ9-20L	18	25
	60	HK-DRL-525-60-7	265	190	235	190	115	10Φ9-20L	24	20
	80	HK-DRL-525-80-7	265	190	235	190	115	10Φ9-20L	28	20
525V, 14%, In1.8; L>0.95 (Un=400V, Cn=525V, f=50Hz)	15	HK-DRL-525-15-14	265	190	235	190	115	10Φ-20L	24	15
	20	HK-DRL-525-20-14	265	190	235	190	115	10Φ-20L	24	20
	25	HK-DRL-525-25-14	340	190	235	118	115	10Φ-20L	35	25
	30	HK-DRL-525-30-14	340	190	235	118	115	10Φ-20L	35	15
	40	HK-DRL-525-40-14	340	190	255	118	115	10Φ-20L	38	20
	50	HK-DRL-525-50-14	360	210	265	125	150	10Φ-20L	40	25
	60	HK-DRL-525-60-14	360	210	265	125	150	10Φ-20L	40	20



PFC Capacitors for Low Voltage

HK-PCL Series

Applications

The HK-PCL series shunt capacitors are specifically engineered for the power factor correction of inductive loads—including electric motors, transformers, rectifiers, and other similar equipment—within low-voltage industrial grids.

This series provides reliable, continuous compensation to optimize network efficiency, reduce transmission losses, and stabilize voltage profiles in demanding manufacturing and distribution environments.

Design

The HK-PCL series shunt capacitors are constructed utilizing the advanced MKP system, incorporating low-loss, metallized polypropylene films. A specialized metal layering process is employed to optimize the self-healing capability while minimizing dielectric power losses.

To guarantee a continuous, high-quality electrical contact with the electrode metallization, a premium zinc layer is metal-sprayed onto the ends of the capacitor elements. The three single-phase elements within each unit are delta-connected. All internal components are hermetically sealed inside rugged aluminum cases. The entire series is manufactured using an environmentally friendly, non-toxic, and PCB-free dry-type technology to ensure safe operational deployment.

Self-healing Capacity

Electrical fatigue or sustained voltage stress may cause localized dielectric breakdowns at specific points within the film. The resultant micro-arc current immediately vaporizes the thin metallized layer around the puncture site, effectively isolating the damaged spot from the remaining functional sections of the capacitor.

Capacitance loss during this self-healing process is virtually negligible, measured only in picofarads (pF). This reliable self-healing property guarantees excellent operating stability and an extended service life for the equipment.

Discharge Resistor

Capacitors must be discharged to $\geq 10\%$ of their rated voltage prior to being re-energized or reconnected to the grid. To satisfy this requirement, the HK-PCL series units are equipped with standard, high-performance discharge resistor networks that safely reduce the terminal residual voltage to below 75 V within 3 minutes after network disconnection.

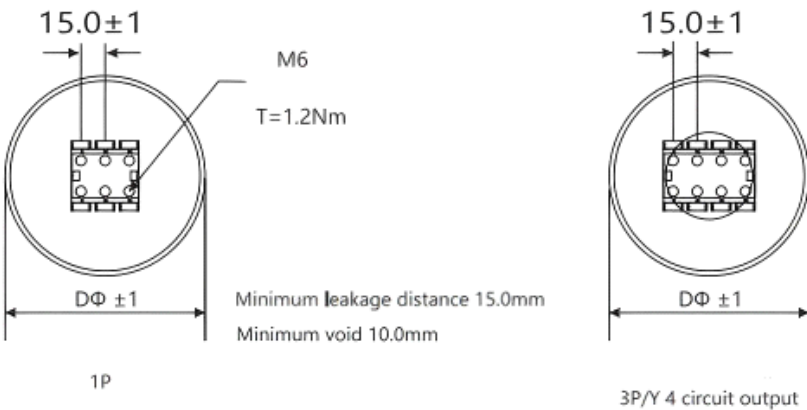
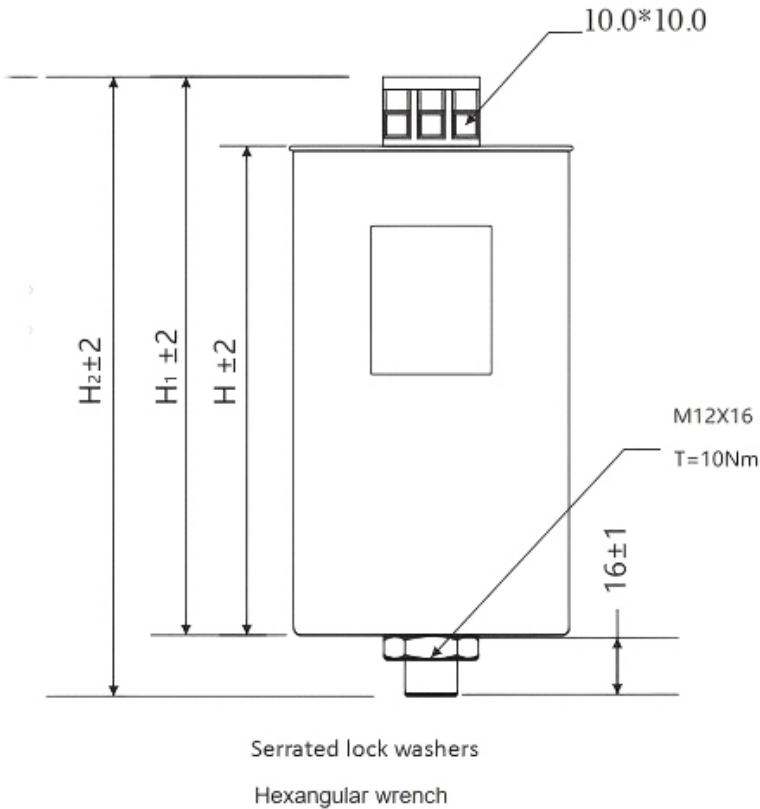
Over-pressure Disconnect

For critical safety protection under irreversible fault conditions, every capacitor is equipped with an internal over-pressure disconnect. In the event of severe, prolonged overloading or at the end of the capacitor's operational lifespan, the resulting internal gas pressure triggers a physical expansion of the grooved top cover, permanently disconnecting all three phases before any housing rupture can occur.



Technical Data

Type	Symbol	Unit	HK-PCL Series
Standards	—	—	IEC/EN 60831-1/2
Connection	—	—	Delta (three-phase)/Single-phase
Rated reactivepower	Qn	kVar	Up to 7.5
Rated voltage	U n	V	400 ~ 525
Rated frequency	F n	Hz	50 or 60
Capacitancetolerance	—	—	-5 / +10 % (others on request)
Dielectric losses	—	W/kVar	≤ 0.2
Total losses	—	W/kVar	≤ 0.45
Temperaturecategory	—	—	-25 / D
Max. humidity	—	—	95 %
Cooling	—	—	Natural air or forcedventilation
Max. overvoltage	—	—	1.1 × U n (8 h / day)1.15 × U n(30 min / day)1.2 × U n(5 min - 200 times per lifetime)1.3 × U n(1 min - 200 times per lifetime)
Max. overcurrent	—	—	1.3 × I n(including combined effects of overvoltages, harmonics and capacitance tolerance)
Inrush current	—	—	150 × I n
Expected life time	—	—	> 100,000 h (temp. category D)> 120,000 h (temp. category C)
Discharge resistor	—	—	To 75 V ≤ 3 min
Altitude	—	—	Up to 4000 m
Insulation level	—	kV	3.6 / -
Routine tests	—	—	
— Terminal to terminal	—	—	2.15 × U n, 2 s
— Terminal to case	—	—	3600 V, 10 s
— Sealing test	—	—	75 °C, 6 h
Mechanical parameters	—	—	
— Terminal per phase / Max. current	—	—	2.5 mm² / 15 A
— Mounting and grounding / Max. torque	—	—	Threaded M12 bolt / 10 Nm
— Mounting position	—	—	Vertical with terminal pointing upwards or horizontal
— Protection	—	—	Ip00
— Clearance distance	—	—	> 10 mm
— Creepage distance	—	—	> 10 mm
— Safety device	—	—	Over-pressure disconnecter (ISOD)
Material parameters	—	—	
— Dielectric	—	—	Self-healing metallized polypropylene film (MKP)
— Filling	—	—	Non-PCB dry-type resin / gas filling
— Case	—	—	Extruded Aluminium



Selection and Dimensions

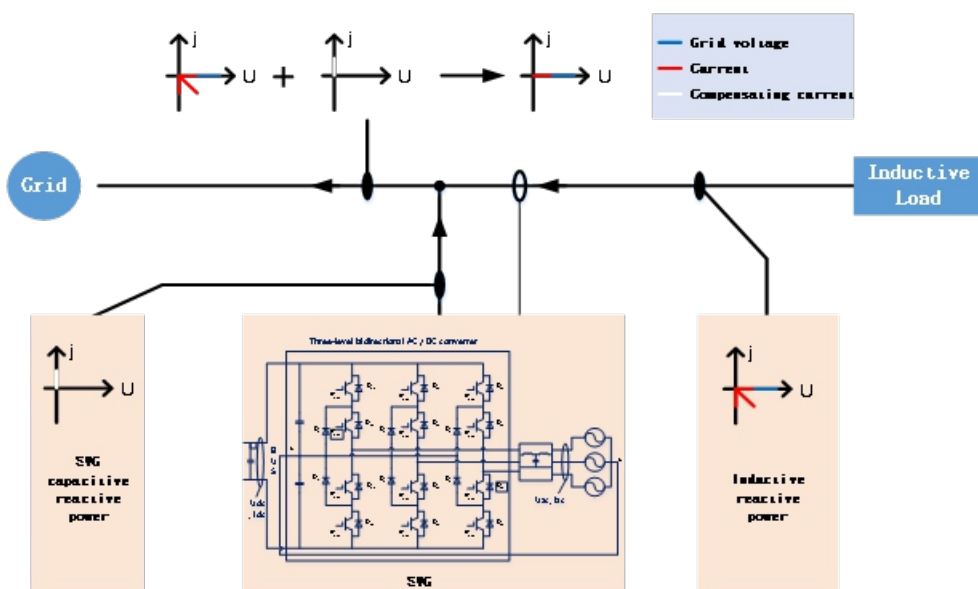
Applicable Voltage	Rated Capacity (kvar)	Product Model	Capacitance (μF)	Rated Current (A)	Outer Diameter D (mm)	Height H (mm)	H1 (mm)	H2 (mm)	Mounting Thread	Weight (kg)	Packaging Quantity (pcs)
250V Single-Phase	5	HK-PCL-250-5.0-1	254.8	20	Φ76	180	215	230	M12	1	10
	10	HK-PCL-250-10.0-1	509.6	40	Φ88	240	275	290	M12	1.5	10
	12.5	HK-PCL-250-12.5-1	636.9	50	Φ116	260	310	325	M12	2.8	8
280V Single-Phase	5	HK-PCL-280-5.0-1	203.1	17.9	Φ76	180	215	230	M12	1	16
	10	HK-PCL-280-10.0-1	406.2	35.7	Φ88	240	290	305	M12	1.5	10
	12.5	HK-PCL-280-12.5-1	507.8	44.6	Φ96	240	290	305	M12	1.7	10
480V Single-Phase	10	HK-PCL-480-10.0-1	138.3	20.8	Φ88	240	290	305	M12	1.5	10
	12.5	HK-PCL-480-12.5-1	172.8	26	Φ88	240	295	305	M12	1.5	10
	15	HK-PCL-480-15.0-1	207.4	31.3	Φ96	260	310	325	M12	1.8	10
	20	HK-PCL-480-20.0-1	276.5	41.7	Φ106	260	310	325	M12	2.3	8
	25	HK-PCL-480-25.0-1	345.6	52.1	Φ116	260	310	325	M12	2.8	8
525V Single-Phase	10	HK-PCL-525-10.0-1	115.5	19	Φ88	240	275	290	M12	1.5	10
	12.5	HK-PCL-525-12.5-1	144.4	23.8	Φ88	240	275	290	M12	1.5	10
	15	HK-PCL-525-15.0-1	173.3	28.6	Φ96	260	295	310	M12	1.8	10
	20	HK-PCL-525-20.0-1	231.1	38.1	Φ116	245	295	310	M12	2.7	8
	25	HK-PCL-525-25.0-1	288.9	47.6	Φ116	260	310	325	M12	2.8	8
440V 3-Phase Delta	10	HK-PCL-440-10-3	164.5	13.1	Φ76	240	275	290	M12	1.2	10
	11.3	HK-PCL-440-11.3-3	185.9	14.9	Φ88	240	275	290	M12	1.5	10
	14.1	HK-PCL-440-14.1-3	231.9	18.5	Φ88	240	275	290	M12	1.5	10
	15	HK-PCL-440-15-3	246.7	19.7	Φ88	240	275	290	M12	1.5	10
	16.9	HK-PCL-440-16.9-3	278	22.2	Φ96	260	295	310	M12	1.8	10
	18.8	HK-PCL-440-18.8-3	309.3	24.7	Φ96	260	295	310	M12	1.8	10
	20	HK-PCL-440-20-3	329	26.2	Φ96	260	295	310	M12	1.8	10
	22.5	HK-PCL-440-22.5-3	370	29.5	Φ106	260	295	310	M12	2.3	8
	25	HK-PCL-440-25-3	411.2	32.8	Φ116	245	280	310	M12	2.7	8
	30	HK-PCL-440-30-3	493.5	39.4	Φ116	260	295	325	M12	2.8	8
480V 3-Phase Delta	10	HK-PCL-480-10-3	138.3	12.1	Φ76	240	275	290	M12	1.2	10
	12.5	HK-PCL-480-12.5-3	172.8	15	Φ88	240	275	290	M12	1.5	10
	13.8	HK-PCL-480-13.8-3	190.8	16.6	Φ88	240	275	290	M12	1.5	10
	15	HK-PCL-480-15-3	207.4	18	Φ96	260	295	310	M12	1.8	10
	16.6	HK-PCL-480-16.6-3	229.5	20	Φ96	260	295	310	M12	1.8	10
	17.9	HK-PCL-480-17.9-3	247.4	21.5	Φ106	260	295	310	M12	2.3	8
	18.4	HK-PCL-480-18.4-3	254.3	22.1	Φ106	260	295	310	M12	2.3	8
	20	HK-PCL-480-20-3	276.5	24.1	Φ106	260	295	310	M12	2.3	8
	22.5	HK-PCL-480-22.5-3	305.5	26.6	Φ116	260	295	310	M12	2.8	8
	25	HK-PCL-480-25-3	345.6	30.1	Φ116	260	295	310	M12	2.8	8
525V 3-Phase Delta	13.2	HK-PCL-525-13.2-3	152.6	14.5	Φ96	260	295	310	M12	1.8	10
	15	HK-PCL-525-15-3	173.3	16.5	Φ96	260	295	310	M12	1.8	10
	15.3	HK-PCL-525-15.3-3	176.8	16.8	Φ96	260	295	310	M12	1.8	10
	16.7	HK-PCL-525-16.7-3	193	18.3	Φ106	260	295	310	M12	2.3	8
	17.9	HK-PCL-525-17.9-3	208.8	19.8	Φ106	260	295	310	M12	2.3	8
	18.4	HK-PCL-525-18.4-3	212.6	20.2	Φ106	260	295	310	M12	2.3	8
	20	HK-PCL-525-20-3	231.1	21.9	Φ116	260	295	310	M12	2.8	8
	20.4	HK-PCL-525-20.4-3	235.7	22.4	Φ116	260	295	310	M12	2.8	8
	21.5	HK-PCL-525-21.5-3	248.4	23.6	Φ116	260	295	310	M12	2.8	8

Static Var Generator



HK-SVG Series Overview

The Static Var Generator (SVG) works by connecting a voltage source converter in parallel to the power grid through a filter. By adjusting the amplitude and phase of the AC output voltage of the converter, it dynamically and accurately compensates for reactive power in the power grid system. The transient response time is less than 50μs and the full response time is less than 10ms, avoiding over-compensation and under-compensation.



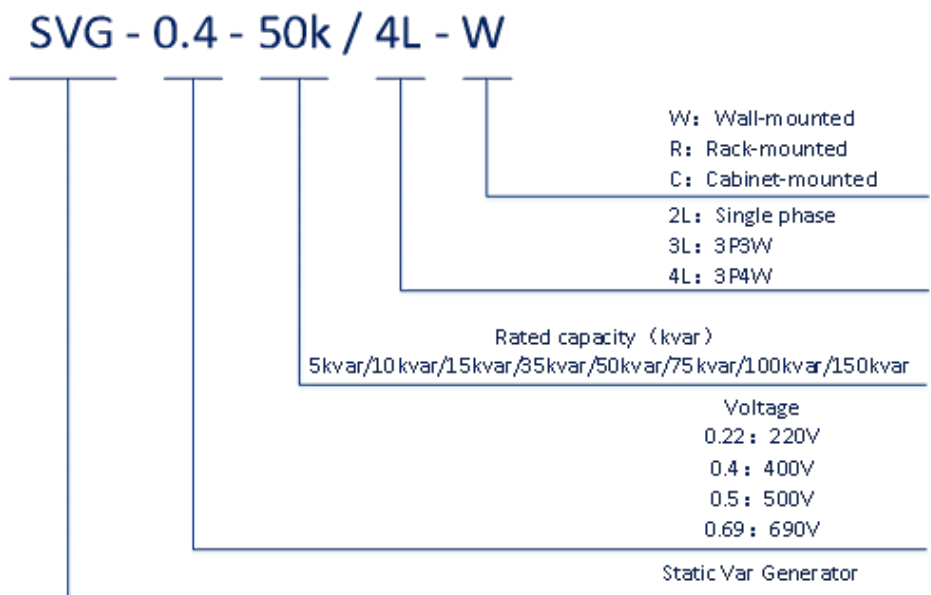
Features

- DSP+CPLD fully digital control core, three-level topology technology, advanced reactive power detection algorithm and PWM control strategy.
- Modular design with parallel connectivity, compact footprint, and easy maintenance.
- Independent airflow duct and modular compartment structure to ensure stable operation.
- With two external current sampling channels, supporting multiple compensation ways including low-voltage side sampling & low-voltage side compensation, high-voltage side sampling & low-voltage side compensation, and reactive power compensation.
- Compensation modes: reactive power compensation, reactive power compensation + three-phase unbalance compensation.
- Reactive power compensation rate: $\geq 99\%$.
- Unbalance rate: $\leq 5\%$.
- Millisecond-level dynamic response to load ensuring precise reactive power compensation for impact loads.

Application

Residential Power Distribution Systems, Water Drainage & Sewage Treatment Industry, Distributed Photovoltaic Industry, Chemical, Fiber & Petroleum Industry, Metallurgy, Foundry & Cement Industry, Coal & Mining Industry, Automotive Manufacturing Industry, Semiconductor Precision Manufacturing, Data Centers, Rail Transit, and Distribution Networks, etc.

Model Definition



Module Model				
Models	Compensation Capacity(kvar)	System Voltage(V)	Dimensions W*D*H (mm)	Net Weight (kg)
SVG-0.22-5k/2L-W	5	220	495*350*90.5	12.0
SVG-0.4-10k/4L-W	10	400	550*460*92.2	17.4
SVG-0.4-15k/4L-W	15	400	550*460*92.2	17.4
SVG-0.4-35k/4L-W	35	400	550*460*92.2	17.9
SVG-0.4-50k/4L-W	50	400	587*500*193.2	30.1
SVG-0.4-75k/4L-W	75	400	624*500*243.2	39.6
SVG-0.4-100k/4L-W	100	400	624*500*243.2	41.6
SVG-0.4-150k/4L-W	150	400	785*511*252.0	48.9
SVG-0.5-90k/4L-W	90	500	839*500*328.5	70.1
SVG-0.69-120k/4L-W	120	690	839*500*328.5	70.1
SVG-0.8-150k/3L-W	150	800	839*500*328.5	70.1

Technical Data

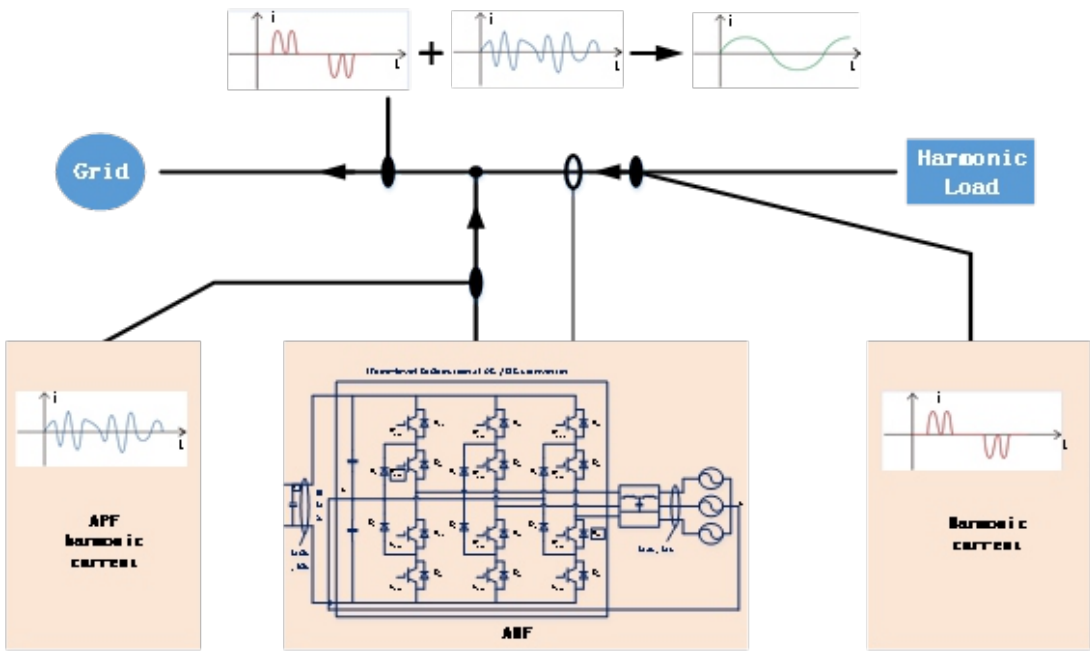
	220V Series	380V Series	500V Series	690V Series	800V Series
Altitude	< 2000m (derated per IEC 62477-1 above 2000m)				
Ambient Temperature	-10℃ ~ +50℃ (derated above 40℃)				
Relative Humidity	≤ 90%, no condensation on surface at monthly min. temperature of 25℃				
Pollution Level	Below Level III				
Operating Voltage	AC220V(±20%)	AC380V (±20%)	AC500V (±20%)	AC690V (-20%~+15%)	AC800V (-20%~850V)
Operating Frequency	50Hz/60Hz (45Hz~63Hz)				
Rated Compensation Capacity	5kvar	5kvar, 10kvar, 15kvar, 20kvar, 35kvar, 50kvar 75kvar, 100kvar,150k	90kvar	120kvar	150kvar
Power Grid Structure	L/N	3P3W, 3P4W			3P3W
Numbers in Parallel	Unlimited				
System Efficiency	≥97%				
Switching Frequency	16kHz		12.8kHz		
Function Selection	Reactive Power	● Reactive Power ● Reactive Power + Unbalance			Reactive Power
Reactive Power	≥ 99%				
Unbalance After Compensatio	≤5%				
Full Response Time	<10ms				
Noise	≤60dB	≤65dB			
Communication	2*RS485 Communication Ports (Supports WiFi)				
Protection	Overload, Software/Hardware Overcurrent, Over/Undervoltage,Voltage Unbalance (except for 220V Series L/N) , Power Supply Fault, Overtemperature, Frequency Anomaly, Short Circuit Protection				
Overload Capacity	1.2 times rated overload for 60 seconds				
Installation	Rack-Mounted, Wall-Mounted				
Entry Line Method	Rear Inlet (Rack-Mounted), Top Inlet (Wall-Mounted)				
Protection Level	IP20 (IP54 is customizable)				

Active Harmonic Filter



HK-AHF Series Overview

The working principle of AHF is to detect the load current in real time. Based on a specified specific harmonic current detection algorithm, the harmonic current is gradually separated, and a control signal is generated according to the set filtering percentage to drive the IGBT to output a compensation current with the same amplitude and opposite phase as the load harmonic current, achieving the purpose of harmonic compensation function.



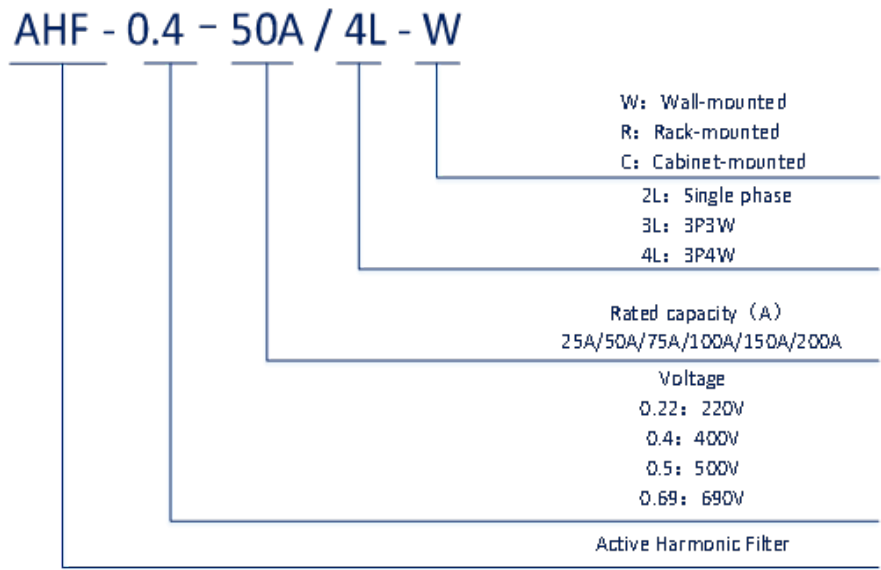
Features

- Theory: Adopting a DSP+CPLD full digital control core, three-level topology technology, advanced harmonic detection algorithm, and PWM control strategy to achieve precise compensation of harmonic current.
- Modular design allows multiple modules to be connected in parallel, resulting in a small footprint and easy maintenance.
- Independent air ducts and isolated compartment design ensure stable thermal operation.
- It can be set to 100% current limiting output to ensure long-term stable operation of the equipment.
- Supports multi-functional modes: Selective Harmonic Mitigation, Reactive Power Compensation, and Three-Phase Unbalance Correction.
- Current harmonic compensation capability:≥ 95%.
- Unbalance compensation capability:≤ 5%.

Application

Residential Power Distribution Systems, Drainage and Sewage Treatment Industries, Distributed Photovoltaic Industries, Chemical, Chemical Fiber and Petroleum Industries, Metallurgy, Casting and Cement Industries, Coal and Mining Industries, Automobile Manufacturing Industries, Semiconductor Precision Processing, Data Centers, Rail Transit and Distribution Network Power Grids, etc.

Model Definition



Module Model				
Models	Compensation Current (A)	System Voltage(V)	Dimensions W*D*H (mm)	Net Weight (kg)
AHF-0.4-25A/4L-W	25	400	550*460*92.2	17.4
AHF-0.4-50A/4L-W	50	400	550*460*92.2	17.9
AHF-0.4-75A/4L-W	75	400	587*500*193.2	30.1
AHF-0.4-100A/4L-W	100	400	624*500*243.2	39.6
AHF-0.4-150A/4L-W	150	400	624*500*243.2	41.6
AHF-0.4-200A/4L-W	200	400	785*511*252.0	48.9
AHF-0.5-100A/4L-W	100	500	839*500*328.5	70.1
AHF-0.69-100A/4L-W	100	690	839*500*328.5	70.1
AHF-0.8-100A/3L-W	100	800	839*500*328.5	70.1

Technical Data

	220V Series	380V Series	500V Series	690V Series	800V Series
Altitude	<2000m (derated per IEC 62477-1 above 2000m)				
Ambient Temperature	-10℃ ~ +50℃ (derated above 40℃)				
Relative Humidity	≤ 90%, no condensation on surface at monthly min temperature of 25℃				
Pollution Level	Below Level III				
Operating Voltage	AC220V(±20%)	AC380V (±20%)	AC500V (±20%)	AC690V (-20%~+15%)	AC800V (-20%~850V)
Operating Frequency	50Hz/60Hz (45Hz~63Hz)				
Rated Compensation Capacity	25A	7A,15A,25A, 50A, 75A, 100A, 150A, 200A	100A		100A
Power Grid Structure	L/N	3P3W, 3P4W			3P3W
Numbers in Parallel	Unlimited				
System Efficiency	≥97%				
Switching Frequency	16kHz		12.8kHz		
Function Selection	Harmonic	● Reactive Power ● Reactive Power + Unbalance			Harmonic
Current Harmonic Compensation Range	2~50 times, with adjustable compensation rate per time				
Harmonic	≥95%				
Unbalance Compensation Capacity	≤5%				None
Full Response Time	<40ms				
Cooling Method	Forced Air Cooling				
Noise	≤60dB	≤65dB			
Communication	2 RS485 communication interfaces (supports WiFi)				
Protection	Overload,Software/Hardware Overcurrent,Over/Undervoltage,Unbalance, Power Supply Fault, Overtemperature, Frequency Anomaly, Short Circuit Protection				
Overload Capacity	1.2 times rated overload for 60 seconds				
Installation	Rack-Mounted, Wall-Mounted				
Entry Line Method	Rear Inlet (Rack-Mounted), Top Inlet (Wall-Mounted)				
Protection Level	IP20 (IP54 is customizable)				

Advanced Static Var Generator



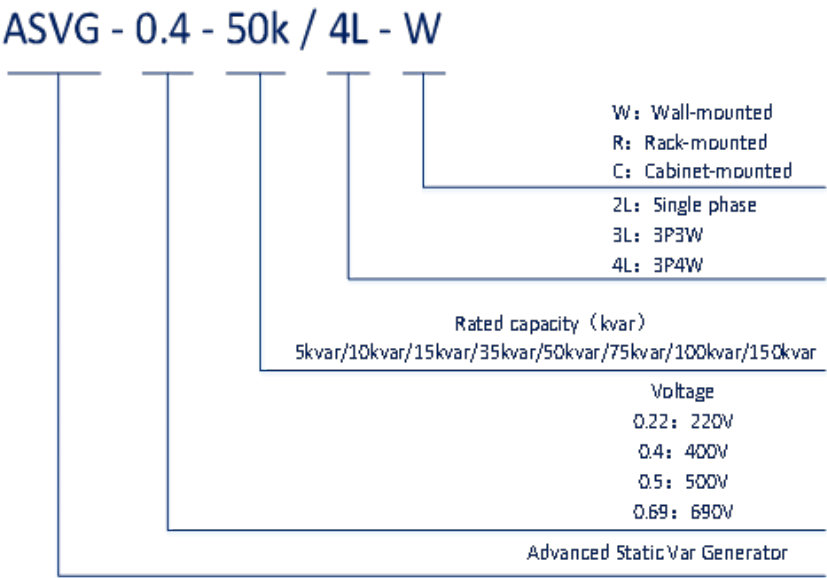
Features

- DSP+CPLD fully digital control core, three-level topology technology.
- Modular design, multiple modules can be connected in parallel, small footprint, easy maintenance.
- Independent air duct and isolated compartment structure design ensures stable operation of the equipment.
- Equipped with two external current sampling channels, supporting various compensation methods such as low-voltage side sampling and compensation, high-voltage side sampling and compensation.
- Supports flexible, simultaneous compensation modes for reactive power, harmonics, and three-phase unbalance.
- Reactive power compensation rate : $\geq 99\%$.
- Residual Current Unbalance: $\leq 5\%$.
- Current harmonic compensation capability: $\geq 95\%$; 2nd to 50th harmonics, single-harmonic compensation rate adjustable.
- Neutral line zero-sequence current filtering capability is twice that of the phase lines (three times is customizable).

Application

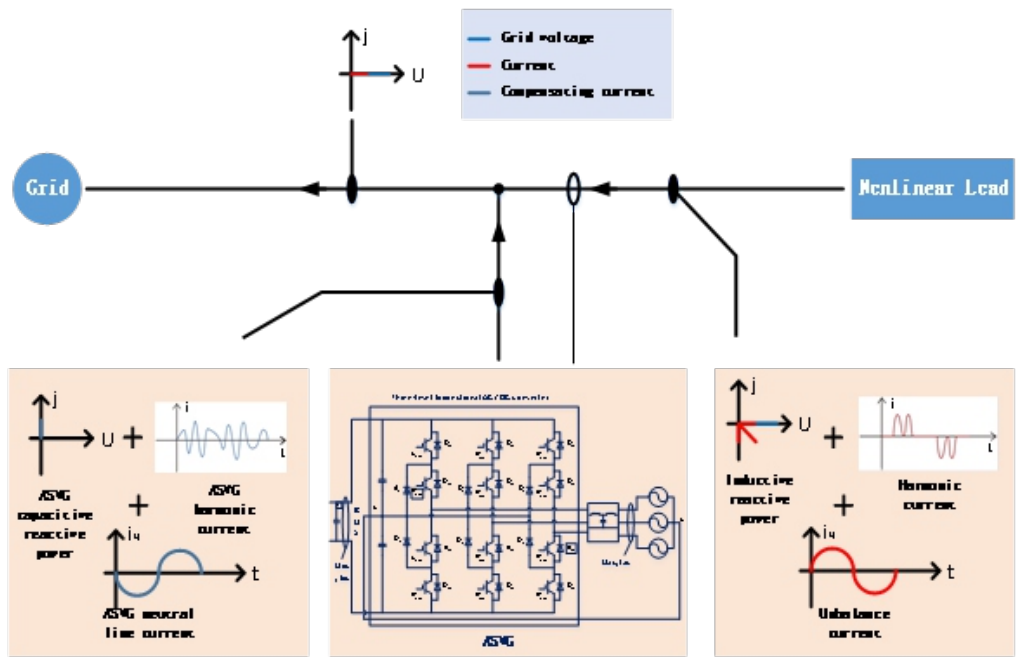
Residential Power Distribution Systems, Drainage and Wastewater Treatment, Distributed Photovoltaics, Chemicals, Chemical Fibers, and Petroleum, Metallurgy, Casting, and Cement, Coal and Mining, Automotive Manufacturing, Precision Semiconductor Processing, Data Centers, Rail Transit, and Local Distribution Grids, etc.

Model Definition



HK-ASVG Series Overview

The ASVG is a novel advanced voltage-source inverter (VSI) operating as a dynamic current source. It adjusts the phase and amplitude of the output voltage on the inverter's AC side by real-time monitoring of the load current. This allows it to provide precise, simultaneous compensation for system reactive power, harmonics, and three-phase unbalanced currents. The ASVG is characterized by its strong comprehensive compensation capabilities, fast response time, and high cost-effectiveness, making it a better solution in the field of power quality management.



Module Model				
Models	Compensation Capacity(kvar)	System Voltage(V)	Dimensions W*D*H (mm)	Net Weight (kg)
ASVG-0.22-5k/2L-W	5	220	495*350*90.5	12.0
ASVG-0.4-10k/4L-W	10	400	550*460*92.2	17.4
ASVG-0.4-15k/4L-W	15	400	550*460*92.2	17.4
ASVG-0.4-35k/4L-W	35	400	550*460*92.2	17.9
ASVG-0.4-50k/4L-W	50	400	587*500*193.2	30.1
ASVG-0.4-75k/4L-W	75	400	624*500*243.2	39.6
ASVG-0.4-100k/4L-W	100	400	624*500*243.2	41.6
ASVG-0.4-150k/4L-W	150	400	785*511*252.0	48.9
ASVG-0.5-90k/4L-W	90	500	839*500*328.5	70.1
ASVG-0.69-120k/4L-W	120	690	839*500*328.5	70.1
ASVG-0.8-150k/3L-W	150	800	839*500*328.5	70.1

Technical Data

	220V Series	380V Series	500V Series	690V Series	800V Series
Altitude	<2000m (derated per IEC 62477-1 above 2000m)				
Ambient Temperature	-10℃ ~ +50℃ (derated above 40℃)				
Relative Humidity	≤ 90%, no condensation on surface at monthly min temperature of 25℃				
Pollution Level	Below Level III				
Operating Voltage	AC220V(±20%)	AC380V (±20%)	AC500V (±20%)	AC690V (-20%~+15%)	AC800V (-20%~850V)
Operating Frequency	50Hz/60Hz (45Hz~63Hz)				
Rated Compensation Capacity	5kvar	5kvar,10kvar, 15kvar,20kvar, 35kvar,50kvar, 75kvar,100kvar, 150kvar	90kvar	120kvar	150kvar
Power Grid Structure	L/N	3P3W, 3P4W			3P3W
Numbers in Parallel	Unlimited				
System Efficiency	≥97%				
Switching Frequency	32kHz	16kHz	12.8kHz		
Function Selection	•Reactive Power, Harmonic,Reactive Power + Harmonic,Harmonic + Reactive Power •Harmonic + Unbalance,Reactive Power + Unbalance, Harmonic + Unbalance + Reactive Power , Reactive Power + Unbalance + Harmonic (except for 220V Series L/N and 800V Series)				
Reactive Power	≥99%				
Residual Current Unbalance:	None	≤5%			None
Neutral Line Filtering Capability	<40ms				
Full Response Time	Reactive Power <10ms, Harmonic <40ms				
Noise	≤60dB		≤65dB		
Communication	2*RS485 Communication Ports (Supports WiFi)				
Protection	Overload, Software/Hardware Overcurrent, Over/Undervoltage, Unbalance, Power Supply Fault, Overtemperature,Frequency Anomaly, Short Circuit Protection				
Overload Capacity	1.2 times rated overload for 60 seconds				
Installation	Rack-Mounted, Wall-Mounted				
Entry Line Method	Rear Inlet (Rack-Mounted), Top Inlet (Wall-Mounted)				
Protection Level	IP20 (IP54 is customizable)				

Hybrid Compensation System Cabinet



Product Overview

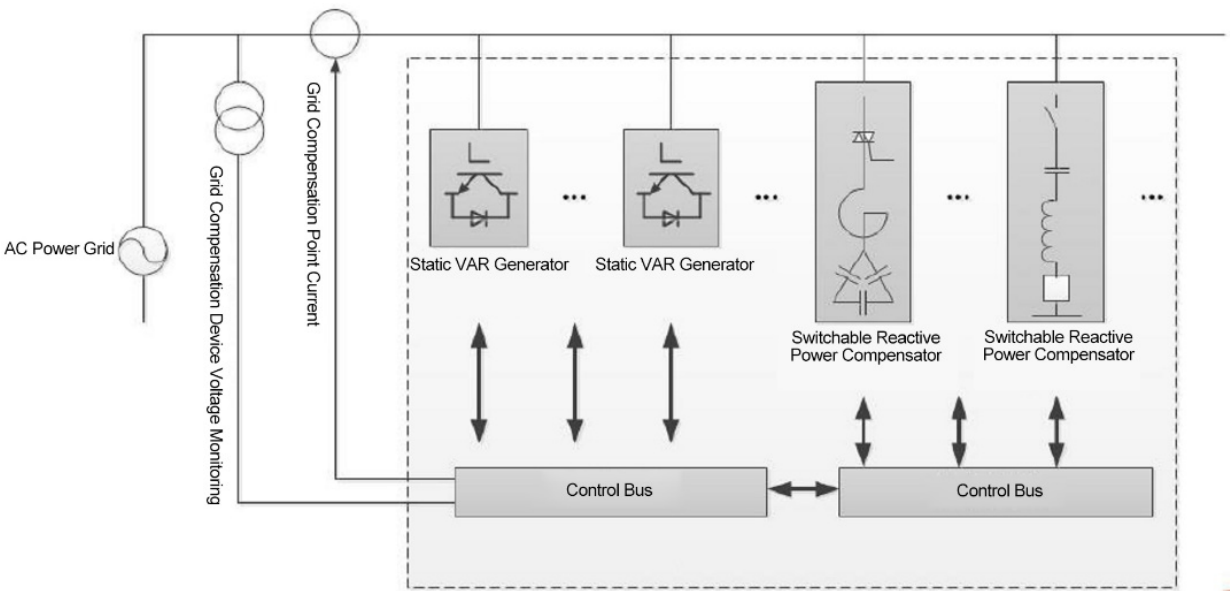
The CSVG system consists of a Hybrid Reactive Power Compensation Controller, Switched Capacitor Banks and AHF/SVG/ASVG Modules. It simultaneously solves distribution network power quality issues such as low power factor and three-phase current unbalance, effectively improving power quality and reducing customer operating costs.

Application

Residential Power Distribution Systems, Drainage & Wastewater Treatment, Distributed Photovoltaics, Chemicals, Chemical Fibers & Petroleum, Metallurgy, Casting & Cement, Coal & Mining, Automotive Manufacturing, Semiconductor Precision Processing, Data Centers, Rail Transit & Local Distribution Grids, among others.

System Diagram

Residential Power Distribution Systems, Drainage & Wastewater Treatment, Distributed Photovoltaics, Chemicals, Chemical Fibers & Petroleum, Metallurgy, Casting & Cement, Coal & Mining, Automotive Manufacturing, Semiconductor Precision Processing, Data Centers, Rail Transit & Local Distribution Grids, among others.



Application

- It adopts a DSP+CPLD full-digital control core, which takes power factor as the control target, coordinately controls the output power of SVG and SVC, and realizes dynamic and precise reactive power compensation.
- It possesses both three-phase common compensation capability and phase-by-phase compensation capability.
- Reactive power compensation rate : $\geq 99\%$.
- Residual Current Unbalance: $\leq 5\%$ (If the capacity is sufficient)
- Equipped with two external current sampling channels, supporting various compensation modes such as low-voltage-side sampling with low-voltage-side compensation, high-voltage-side sampling with low-voltage-side compensation, and reactive component compensation.
- Capable of storing operational data for the most recent year.
- Features an automatic recovery function that resumes operation following a grid power outage; furthermore, a fault lockout condition within the SVG unit does not interfere with the switching operations of the capacitor banks.
- Features protection functions against over/undervoltage, overcurrent, short circuits, and phase loss, as well as system self-diagnostic capabilities.

Technical Data

	380V Series
Altitude	<2000m (derated per IEC 62477-1 above 2000m)
Ambient Temperature	-10°C ~ +50°C (derated above 40°C)
Humidity	$\leq 95\%$ RH, non-condensing
Pollution Level	Below Level III
Operating Voltage	AC380V ($\pm 20\%$)
Operating Frequency	50Hz/60Hz (45Hz~63Hz)
Rated Compensation Capacity	130kvar~420kvar
Power Grid Structure	3P4W
Compensation Capability	Three-Phase Common Compensation & Phase-by-Phase Compensation
Total Response Time	$\leq 10\text{ms}$
Reactive Power	$\geq 99\%$
Unbalance Compensation	Residual Current Unbalance: $\leq 5\%$ (with sufficient capacity)
Cooling Method	Forced Air Cooling
Noise	$\leq 65\text{dB}$
Communication	RS485, Ethernet (Modbus-RTU/TCP), Wi-Fi Support
Protection	Overload, Software/Hardware Overcurrent, Grid Over/Undervoltage, Grid Voltage Unbalance, Power Supply Fault, Overtemperature, Frequency Anomaly, Short-Circuit Protection
Overload Capacity	1.2 times rated overload for 60 seconds
Installation Method	Floor-standing
Entry Line Method	Top Entry, Bottom Entry
Protection Level	IP20 (IP54 is customizable)
Display	A 7-inch Screen & HMI
Data Storage	Capable of storing operational data for the most recent year