SGVF Series

PD FREE ELECTRONICS POWER SOURCE

- No load/load loss measurement for power transformer
- No load over-excitation test for power transformer
- Induced voltage test & partial discharge measurement for power transformer
- Temperature rising test for power transformer
- No load/load switching test for on-load tap changer
- Zero sequence impedance measurement for power transformer
- Loss measurement for shunt reactor
- Induced voltage test & partial discharge measurement for shunt reactor
- Temperature rising test for shunt reactor

SGVF Series

PD FREE ELECTRONICS POWER SOURCE

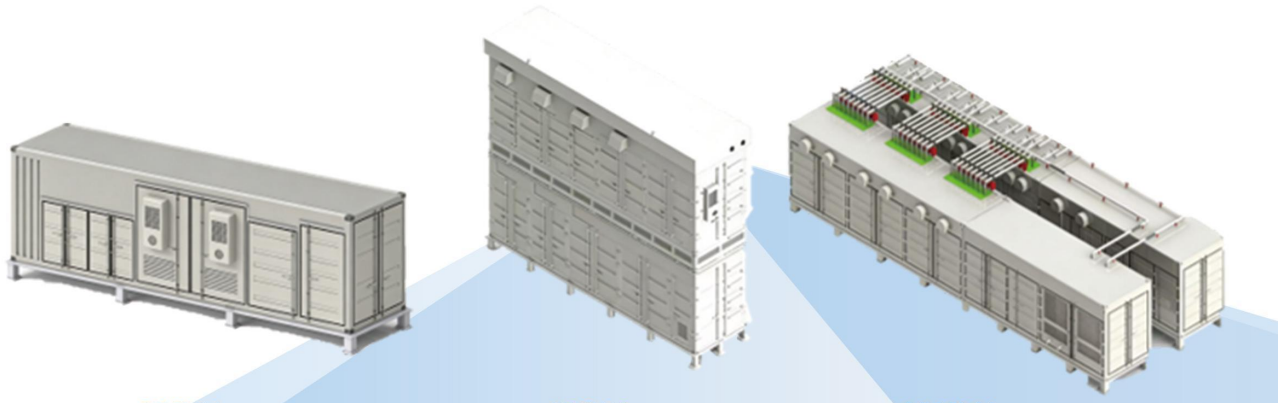
Brief

SGVF series PD-Free Electronic Power Source is an AC power source with adjustable output voltage and frequency. It is specially developed for routine and on-site testing of power transformers, shunt reactors, instrument transformers.In addition, this unit can be used as a power supply with transient protection for AC test transformers and AC resonance systems, to replace voltage regulators and linear frequency converters. Its rated capacity ranges from 500 kVA to 15000kVA, with an output voltage of 0.69kV–20kV and an output frequency of 16.6Hz–250Hz. The equipment supports single-phase/three-phase output, featuring ultra-low partial discharge＜10 pC and THD＜3%.

The SGVF series adopts a container-type structure, suitable for both indoor and outdoor installation. No special floor reinforcement or civil modification is required for equipment placement, making it ideal for renovation and upgrade projects of old test stations. The whole unit features a compact structure, air cooling design and convenient daily maintenance.

The SGVF series delivers excellent transient response and protection performance, with a response speed 1000 times faster than conventional circuit breakers. It effectively prevents explosion and fire hazards in the event of system faults. Meanwhile, it supports rapid load variation tests, such as no-load/on-load tests for on-load tap changers and no-load over-excitation tests.

Typical Model



3MVA　　6MVA　　12MVA

Test objects & Advantages

Power Transformers

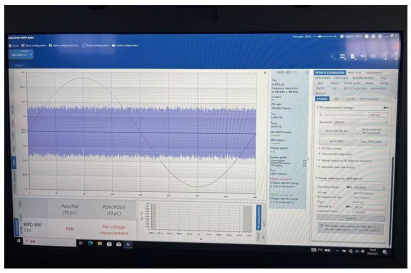
Test Type	Standard	SGVF Advantage
No-load loss measurement	IEC 60076-1	Low THD ensures accurate loss measurement
Load loss measurement	IEC 60076-1	Stable output at all power factors
No-load over-excitation test	IEC 60076-3	No over-voltage risk - unique advantage
Induced voltage test & PD	IEC 60076-3	<10pC output - measure transformer PD, not source PD
Temperature rising test	IEC 60076-2	Full power output at all conditions
Zero sequence impedance	IEC 60076-1	Independent phase control

Shunt Reactors

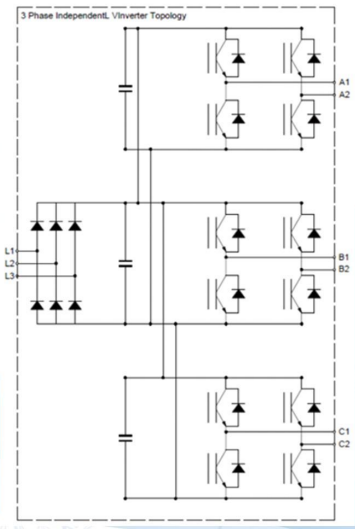
Test Type	Standard	SGVF Advantage
Loss measurement	IEC 60076-6	High accuracy at all frequencies
Induced voltage test & PD	IEC 60076-6	Low PD output
Temperature rising test	IEC 60076-6	Stable long-term operation

On-Load Tap Changers(OLTC)

Test Type	Standard	SGVF Advantage
No-load switching test	IEC 60214	High output impedance - handles impact
Load switching test	IEC 60214	No voltage fluctuation during switching



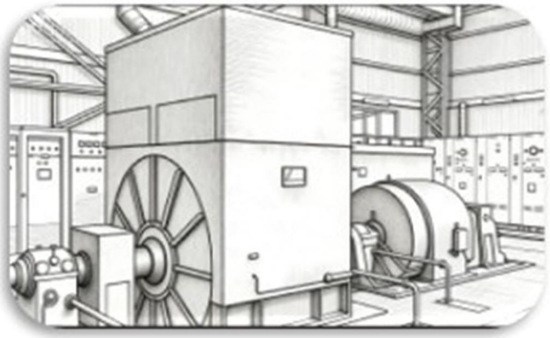
Topology & Advantages



- All DC Link Capacitors in one module, no over voltage risk when over excitation no load test;
- Use single polarity switch frequency doubling technology, max 8 times switch frequency, THD<3% @20%-90%, THD<1.5% @90%-100%;
- No direct grounding point at inverter side, achieve less than 10pC partial discharge.
- Equip three unit single phase step up transformer, multiple units LCR filter, high output impedance, prefect handle impact when tap changer operate;
- Customized input & output voltage due to step down and step up transformer include;
- 3 Phase output voltage independent adjustable;
- >300% High current safety margin;
- Full power output @ all frequency and power factor;

Comparison with M-G SET

Aspect	M-G SET	SGVF Series EPS
Frequency Range	Fixed (50/60Hz/200Hz)	16.6Hz - 250Hz adjustable
PD Level	>100pC	<10pC (special <5pC)
Noise	< 110dB	< 80dB
Maintenance	High maintenance requirement	Minimal (Monthly cleaning only)
Installation	Indoor, requires special foundation	Indoor / outdoor, Container design
Load	Resistive / Inductive load	Resistive / Inductive / Capacitive load



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