



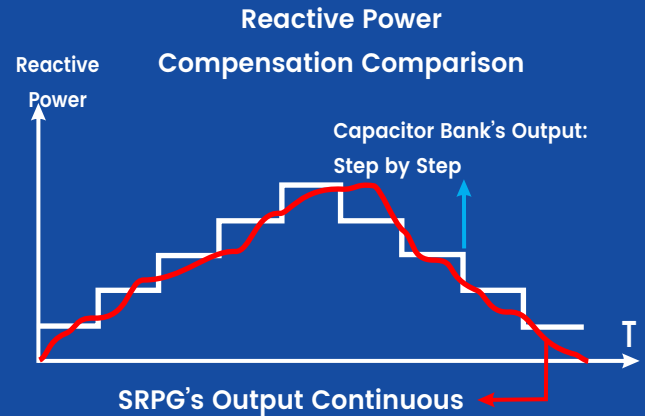
Background

The Static Reactive Power Generator (SRPG), is a reactive power compensation system, used for compensation of normal or dynamic three-phase, balanced or unbalanced loads. Some of the important highlights of SRPG are as follows

- Stable reactive power compensation for capacitive, inductive, positive sequence, negative sequence and zero sequence loads
- Rapid dynamic responses, stable parameters & high precision of reactive power compensation
- High efficiency, low thermal loss and advanced ECO mode achieve intellectual energy saving
- Modular design offers a variety of coordination with various compensation capacities
- The system adopts an advanced 3-level structure & consists of digital signal processors (DSP), large programmable controllers & high power electronic devices, which has excellent performance and superior reliability
- Supports remote power on/ off functions via computer monitoring

The SRPG system is composed of a fixed-type SRPG module, a door mounted display monitor and a SRPG system cabinet. The external CT is used for the detection of load current and extraction of reactive power that needs compensation, based on which, the SRPG controller controls the main power circuit to generate reverse reactive current in this way, the load-carrying reactive power is counteracted.

SRPG – Static Reactive Power Generator



Each standard SRPG system cabinet can be connected to up to 7 modules in parallel. As for the non-standard cabinet, the quantity of the modules installed inside could be varied according to final rating required. The Display Monitor is used for monitoring and controlling the SRPG module online.

Some of other SRPG Features as follows :

- SRPG has high reactive power compensation accuracy
- SRPG can correct both Leading & Lagging PF
- Fast response to Dynamic load variations
- Complete response time (from reactive power generation to elimination) of SRPG is less than 20ms (1 cycle), with instant response time of < 100 micro sec. which enables SRPG to improve Power Factor for fast changing dynamic loads
- SRPG capacity increase in pace with load changes
- High adaptability, reliability and stability
- For harmonic filtration, the SRPG can be complimented with tuned filter banks of 3rd, 5th, 7th & other as per network requirement
- SRPG ambient temperature: -10°C to +50°C
- Input voltage range: 308V-480V (For 415-440V Network) 432V-880V (For 480-690V Network), 50/60Hz ±10%
- SRPG is not affected by harmonic currents
- The SRPG is completely modular in structure. Each module can work independently, and modules can be paralleled to increase the capacity
- Active compensation technology avoids harmonic resonance
- Actual output capacity is the same as rated capacity

Technical Specifications

Electrical Specification

Rated Voltage	: AC 415V
Input Voltage Range	: AC 308V~480V
Electric Connection	: 3P3W / 3P4W
Rated Frequency	: 50 (60) Hz \pm 10%
Rated Capacity per Module	: 100 KVAR (50 KVAR module also available on request)
Rated Current per Cabinet	: 100 KVAR to 700 KVAR (module combination)
Redundancy	: Each module is an independent reactive compensation system
Reactive Power Compensation Capability	: Both inductive and capacitive reactive power
Reactive Power Compensation Performance	: $\cos \phi \geq 0.99$ after compensation (if the SRPG capacity is sufficient)
Imbalance Correction	: Mitigate negative and zero sequence

Capability

Full Response time	: <20ms (\leq 1 Cycle)
Instant Response time	: <100us
Thermal Loss	: \leq 3% of SRPG rated capacity
Output Current Limitation	: Automatic (100% rated capacity)
Parallel Expansion(System)	: Up to 10 Racks (7 modules per cabinet)
MTBF	: >100,000 hours

Control Technology

Switching Frequency	: 30kHz
Controller	: DSP control
Communication	: Modbus Protocol, RS232/485
Monitoring	: PQC Monitor Software (Optional)

Physical Specification

IP Grade of Cabinet	: IP20
Cooling method	: Intelligent forced air cooling
Noise Level	: < 60dB(A) @1m (Module)
Dust Filter	: Optional

Dimension (W x D x H) mm

Upto 300 KVAR	: 850 x 850 x 1525
400 KVAR to 500 KVAR	: 850 x 850 x 2125
600 KVAR to 700 KVAR	: 850 x 850 x 2325

Environmental Requirement

Ambient Temperature	: -10°C to +50°C
Relative Humidity	: 0~95%
Altitude	: \leq 1000m rated capacity, 1000~2000m (derating 1% per 100m)

*Specifications are subject to change without notifications



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PQ Solutions

