

Static Var Generator (SVG) systems

The increase of non-linear and other challenging loads in electrical grids today present unique Power Quality challenges. **SVG** (Static Var Generator) provides a cost effective, extremely fast solution to Power Quality problems, enhancing equipment operating life whilst improving overall power system capacity.

SVG is the new standard in reactive energy compensation, a highly accurate, reliable solution for today's networks characterised by significant increases in harmonics. SVG provides stable, accurate, real-time PFC (*without the drawbacks of traditional capacitor based systems*)

The **SVG** operates by detecting the load current, analysing the reactive content and then injecting the exact reverse reactive compensating current on an instantaneous real-time basis enabling perfect compensation on each phase for both inductive and capacitive loads.

Typical applications

- Data centres: For correction of leading power factor
- UPS systems: Enabling back-up generators to easily synchronise with network UPS systems
- Renewable power generation: (e.g. *photovoltaics and wind turbines*)
- Plastic industry machinery: (e.g. *extruders, injection moulders*)
- Loads with low power factor: Motors, cables, lightly loaded transformers, lighting, etc.
- Electrical welding systems
- Highly dynamic loads requiring rapid reactive power compensation, e.g: electric arc furnaces, or in big steps like cranes, sawmill machinery, etc.

Benefits include: - reduced maintenance, a considerably longer life span, compact size

- Complete Power Quality improvement solution including real-time elimination of harmonics, flicker mitigation
- Provides dynamic step-less compensation instantaneously in real-time to each phase individually
- Only injects the kVAr required in that moment with no possibility of over or under-compensation.
- Can maintain a PF of 0.99 lagging or unity (*if required*) for both inductive and capacitive loads.
- Voltage fluctuations (*flicker*) mitigation and reduction of voltage (*sag and swell*) variations
- Immune to harmonics, resonance and voltage level and is maintenance free (*with no electromechanical components*)
- Expandable by unlimited parallel installations (*unnecessary to over-dimension the capacity to cater future needs*)
- Output current is unaffected by mains voltage fluctuations providing stable support for mains voltage.

Static Var Generator (SVG) systems

- Cooling: Forced air cooling (*fan cooling*)
- Efficiency: $\geq 97\%$
- Communication: RS485 and Ethernet (RJ45) ports (*via HMI*)/RS232 (*via LCM*)



PQCMS503BVB00B0



PQCMA101ANB21B0

type	Kvar	description	expands: up to	dimensions (mm) (H) (W) (D)		
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Static Var Generators (SVG) - Wall mount system (3 phase 4 wire) 400V

PQCMS503BVB00B0*	50kvar	Static Var Generators (SVG) system	–	174	440	600
PQCMA750ANA23B0	–	LCM screen controller for (SVG)	up to	7 slave devices		
PQCMA101ANB21B0	–	HMI touch screen controller for (SVG)	up to	7 slave devices		

* Touch screen or LCM controller required.

Static Var Generators (SVG) - Floor standing system (3 phase 4 wire) 400V

Withdrawable type cabinet - for withdrawable type SVG modules (IP30)

PQCS-400-50-200DC4EM	50kvar	4 module cabinet with rack	200kvar	2000	600	800
PQCS-400-50-350DC4EM	50kvar	7 module cabinet with rack	350kvar	2000	600	800

Withdrawable rack for above draw type cabinet

PQCMS503BHB02B0	50kvar	rack module for above cabinet	–	174	440	522
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