

RPC (eSVG) EFFICIENT STATIC VAR GENERATOR

Product Features

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Efficient Power Factor Correction: Corrects both reactive power and harmonic distortion simultaneously. Optimizing overall system performance and energy efficiency.
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Compact Design: Space-saving design allows easy integration into existing systems without compromising performance.
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Modular and Scalable: Scalable from 70 kVAr to 500 kVAr, with the ability to parallel units for higher capacities.
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Optional Remote Monitoring Capability: Available as an added feature with a custom control panel. Enables proactive maintenance and performance tracking, allowing users to monitor system health remotely.



Marine



Oil & Gas



Water Treatment



General Industry



Data Center



Product Description

The eSVG (efficient Static VAR Generator) is a high-performance, SiC-based active compensation module designed to improve power quality by managing both reactive power and harmonic distortion, making it ideal for systems with complex loads like Variable Frequency Drives (VFDs) and inductive equipment, while offering scalability from 70 kVAr to 500 kVAr in a single panel and the flexibility to meet higher capacity needs through parallel configurations.

General Specification

Type Code	RPC-eSVG X-480-50/60-20-A
Order Code	*Order codes are listed in the table below
Rated Current	*Please refer to the table below
Rated Voltage	220-480V (+10% / -10%)
Rated Frequency	50/60Hz (+/-2%)
Parallel Quantities	*Please refer to the table below
CT Accuracy	0.5 or Better
CT-locations	Grid or Load side (Close-Loop or Open-Loop)
Number of CTs	2 • for 3P3W system & 3 • for 3P4W system
Topology	SiC - Power MOSFET's and Schottky Diodes
Function	Active Power Factor Correction Harmonic Compensation Voltage Stabilization
Harmonics Filtering Range	Harmonic Mitigation Of Harmonics 05th to 13th Order <i>*up to 30% of nominal capacity</i>
Reaction Time	10 ms
Response Time	20 ms
Target Power Factor	1-LD or LG (Leading or Lagging)
Switching Frequency	30 kHz - 50 kHz
Cooling Method	Force Air
Redundancy	Unlimited (A single filter can run on its own regardless if the other filters have failed)
Power Loss	*Please refer to the table below
Efficiency	*Please refer to the table below

Electrical connections, controls, and auxiliary supply

Main Supply Terminals	Barrier terminal, screw connection M8, 10-70mm ² (8-3/0AWG) Tightening torque, min-max.: 3.5-8.0Nm
Network	3P3W (220-480V) 3P4W (220-415V)
Communication Ports	RS485
Communication Protocols	Modbus by RTU Configuration Software
Protection Function	Overvoltage/ Overcurrent/ Overload/ Overtemperature/ Resonance /DC Bus Overvoltage /Abnormal Frequency

Mechanical Properties

Mounting Type	Wall mount/ rack mount/ cabinet
Dimension (W x D x H) mm	*Refer corresponding dimension in the table below
Weight	*Refer corresponding weight in the table below
Colour	Blue

Environment Requirement

Altitude	<2000m, derating 10%/1000m, max 4000m
Ambient Temperature	°C / Max ambient temperature with derating 55°C ≥ Td' > 50°C, (Capacity) : 80%; 50°C ≥ Td' > 45°C, (Capacity) : 90%; 45°C ≥ Td' > 40°C, (Capacity) : 95%; 40°C ≥ Td', (Capacity) : 100%;
Humidity	5....95% - (Non-condensing) during operation
Deg of protection	IP20

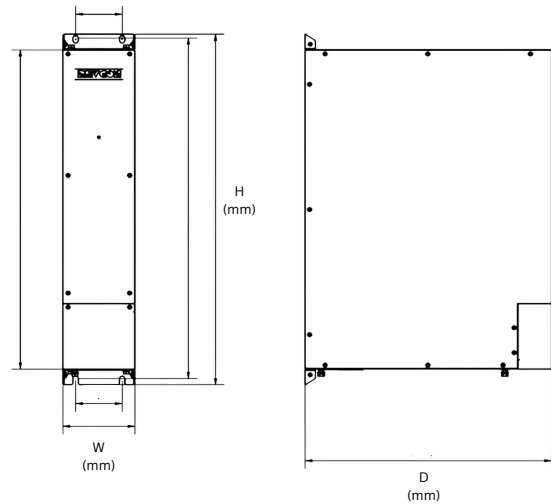
Standard & Requirement

Standard Compliance	IEC 61000-6-2 IEC 61000-6-4 IEC 61000-3-11 IEC 61000-3-12 EN 61800-3 EN 62477 UL 508
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Ordering Information

Type	Order Code
RPC-eSVG 85-480-50/60-20-A	R00002503
RPC-eSVG 125-480-50/60-20-A	R00002569
RPC-eSVG 170-480-50/60-20-A	
RPC-eSVG 210-480-50/60-20-A	
RPC-eSVG 250-480-50/60-20-A	
RPC-eSVG 295-480-50/60-20-A	
RPC-eSVG 335-480-50/60-20-A	
RPC-eSVG 375-480-50/60-20-A	
RPC-eSVG 420-480-50/60-20-A	
RPC-eSVG 460-480-50/60-20-A	
RPC-eSVG 500-480-50/60-20-A	



Technical Specifications

Type	Harmonics Compensation (A)	kVAR (400V)	kVAR (480V)
RPC-eSVG 85-480-50/60-20-A	33	70	85
RPC-eSVG 125-480-50/60-20-A	50	100	125
RPC-eSVG 170-480-50/60-20-A	66	140	170
RPC-eSVG 210-480-50/60-20-A	83	170	210
RPC-eSVG 250-480-50/60-20-A	100	200	250
RPC-eSVG 295-480-50/60-20-A	115	240	295
RPC-eSVG 335-480-50/60-20-A	133	270	335
RPC-eSVG 375-480-50/60-20-A	150	300	375
RPC-eSVG 420-480-50/60-20-A	167	340	420
RPC-eSVG 460-480-50/60-20-A	183	370	460
RPC-eSVG 500-480-50/60-20-A	200	400	500

Physical Dimensions

Type	Module Quantity	w (mm)	d (mm)	h (mm)	Weight (kg)
RPC-eSVG 85-480-50/60-20-A	1	97	482.5	722	31
RPC-eSVG 125-480-50/60-20-A	1	97	482.5	722	33
RPC-eSVG 170-480-50/60-20-A	2	97 x 2	482.5	722	2 X 31
RPC-eSVG 210-480-50/60-20-A	2	97 x 2	482.5	722	1 X 31 & 1 X 33
RPC-eSVG 250-480-50/60-20-A	2	97 x 2	482.5	722	2 X 33
RPC-eSVG 295-480-50/60-20-A	3	97 x 3	482.5	722	2 X 31 & 1 X 33
RPC-eSVG 335-480-50/60-20-A	3	97 x 3	482.5	722	1 X 31 & 2 X 33
RPC-eSVG 375-480-50/60-20-A	3	97 x 3	482.5	722	3 X 33
RPC-eSVG 420-480-50/60-20-A	4	97 x 4	482.5	722	2 X 31 & 2 X 33
RPC-eSVG 460-480-50/60-20-A	4	97 x 4	482.5	722	1 X 31 & 3 X 33
RPC-eSVG 500-480-50/60-20-A	4	97 x 4	482.5	722	4 X 33

Note: The stated Width (mm) is based on the quantity of units aligned in parallel.

Technical Specifications

Type	Parallel Quantities [Unit]	Power Loss [W]	Efficiency [%]	Rated Current [A]
RPC-eSVG 85-480-50/60-20-A	1 x 100A	1283 W	98.50%	100A
RPC-eSVG 125-480-50/60-20-A	1 x 150A	2120 W	98.30%	150A
RPC-eSVG 170-480-50/60-20-A	2 x 100A	2566 W	>98%	200A
RPC-eSVG 210-480-50/60-20-A	1 x 100A & 1 x 150A	3403 W	>98%	250A
RPC-eSVG 250-480-50/60-20-A	2 x 150A	4240 W	>98%	300A
RPC-eSVG 295-480-50/60-20-A	2 x 100A & 1 x 150A	4686 W	>98%	350A
RPC-eSVG 335-480-50/60-20-A	1 x 100A & 2 x 150A	5523 W	>98%	400A
RPC-eSVG 375-480-50/60-20-A	3 x 150A	6360 W	>98%	450A
RPC-eSVG 420-480-50/60-20-A	2 x 100A & 2 x 150A	6806 W	>98%	500A
RPC-eSVG 460-480-50/60-20-A	1 x 100A & 3 x 150A	7643 W	>98%	550A
RPC-eSVG 500-480-50/60-20-A	4 x 150A	8480 W	>98%	600A