



GRUPPO ENERGIA STATIC VAR GENERATOR

GESVG

**MOST ADVANCED TECHNOLOGY
FOR POWER FACTOR CORRECTION**

BENEFITS

- Ultra-fast
- Dynamic (no steps)
- Resistant to harmonics
- Up to 400 kVar in single cabinet
- Avoid penalties on the energy bill
- Suitable for unbalanced networks
- Parallel installation up to 100 units, 40 MVar
- Compensation of each phase independently
- Inductive or capacitive reactive energy correction
- Available for 230 V, 400 V, 440 V, 480 V, 500 V and 690 V networks

IDEAL FOR

- Solar power plant
- Wind power plant
- Hydroelectric power plant
- Electric generators
- Water pumps
- Cement factories
- Industrial furnaces
- Welding equipment
- Data centers
- Air condition
- Paper industry



MADE IN ITALY



WWW.GRUPPOENERGIA.COM

GRUPPO ENERGIA STATIC VAR GENERATOR GESVG

OPERATING MODE

Gruppo Energia Static Var Generator **GESVG** with multi-level technology is an active device based on power electronics components, used to generate a current with the same amplitude as the active current to compensate, in the opposite phase, capacitive or inductive loads.

GESVG uses the current measured with external current transformers to generate a counter-phase current, with the magnitude required to obtain the $\cos \Phi$ programmed for the installation (target $\cos \Phi$).

Specially designed to instantly compensate by adjusting demand in milliseconds, both in balanced and unbalanced systems in installations with or without neutral.

All devices are equipped with IGBT technology for ultra-fast power factor correction (reacting time less than 20 ms) and EMI filters to reduce high frequency electronic noise that may cause interference with other devices.

Thanks to the absence of passive components such as capacitors or reactors used in standard power factor correction systems, the **GESVG** can be used in networks affected by harmonics without need for additional filtering systems.

GESVG are designed to be modular allowing the parallel connection of up to 100 units, even of different power, comfortably controlled by the master unit thanks to the integrated "Master / Slave" system.

GESVG HELP TO SAVE ENERGY AND MONEY.

GESVG is able to compensate capacitive and inductive loads, so it allows eliminate the additional costs for the reactive power for any kind of installation.

Furthermore accurate power factor correction reduces the current flow through the installation's conductors, avoiding any overheating and the triggering of protections. In addition, benefits will also be seen on the performance of the transformer and its available power.

The **GESVG** is the best solution when are present the fluctuating and unbalanced loads currents, in such case when standard capacitor bank is ineffective.

The **GESVG** continuously and dynamically reduces the reactive power, always guaranteeing the achievement of the target in the fastest way.

BENEFITS OF GESVG

Maximum accuracy

Each device is equipped with a 3,5" color touchscreen display through which it is possible to set the target $\cos \Phi$ from 0,7 inductive to 0,7 capacitive. The **GESVG** compensate the exact amount of reactive current to achieve the set target value even in the network with fast load variations.

Ultra-fast

GESVG are equipped with most advanced IGBT and semiconductors technology which allows response time lower than 20 ms (faster than contactors or thyristors) even in networks with high consumption variability. The device will be at your side in the most critical conditions and with any type of load.

Protected against harmonics

GESVG uses the most modern technologies to perform the power factor correction, compensation without need of passive components such as capacitors or inductors, both sensitive to harmonics.

Consequently, the device can be installed in any type of network with a high harmonic current presence without affecting its performance and without needing the other filtering devices.

User friendly touchscreen display

All electrical and compensation parameters can be controlled on the touchscreen display. Thanks to the use of color graphics and diagrams, reading will be even easier and more immediate.

Smart security systems

- The internal temperature is constantly automatically monitored to protect the device in all working conditions.
- Auto-check system allows the device to control itself and signal the alarm on the display if there are any problems.
- If during the operation **GESVG** will find an error, safe mode will automatically be activated to avoid damaging the device.
- The intensity of the forced ventilation is controlled by the internal sensors in order to guarantee adequate cooling and extend the life of the fans.
- All alarms can be controlled directly from the **GESVG** display.

Quick and easy commissioning

Just connect, set-up and start to perform power factor correction.

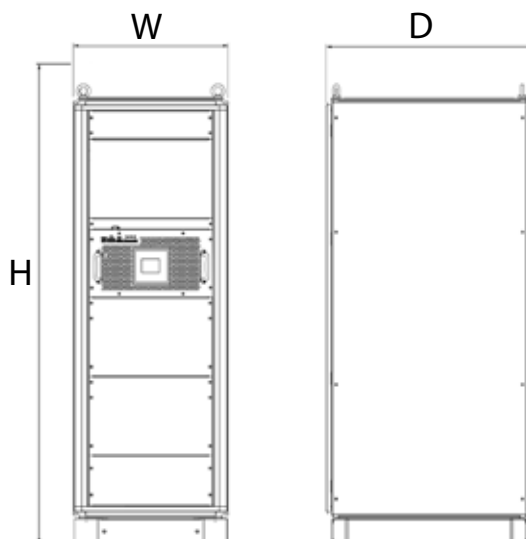
All configurations can be carried out through touch screen display directly on site.

TYPE C

Cabinet type for system 230...690 V, 50/60 Hz



Range
40/400 kVAR

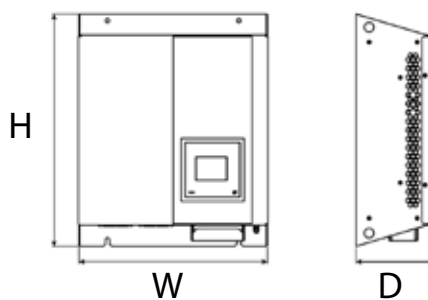


TYPE W

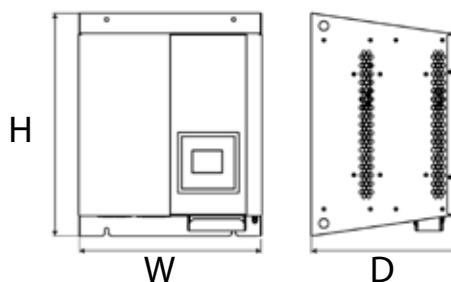
Wall mounted type for system 230...480 V, 50/60 Hz



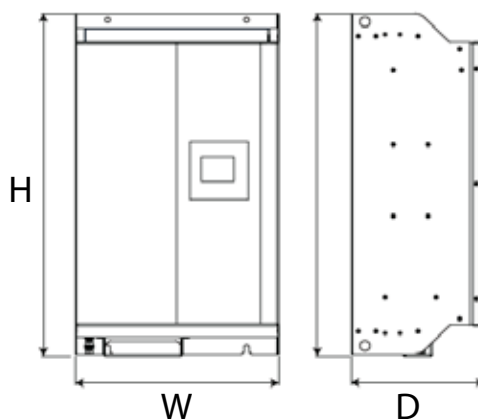
Range
12/30 kVAR



Range
24/60 kVAR



Range
40/100 kVAR



GRUPPO ENERGIA STATIC VAR GENERATOR

GESVG

Wall mounted type for system 230...480 V, 50/60 Hz, 3P3W

ORDER CODE	230 V kVar	400 V kVar	440 V kVar	480 V kVar	500 V kVar	690 V kVar	Phase Current A	Dimension mm WxDxH	Weight Kg	Protection Degree	Type
GESVG3P3W30W480	17,4	30	30	30	-	-	44	430 x 178 x 530	21	IP20	W
GESVG3P3W60W480	34,5	60	60	60	-	-	88	430 x 348 x 530	39	IP20	W
GESVG3P3W100W480	57,5	100	100	100	-	-	145	439 x 288 x 745	56	IP20	W

Wall mounted type for system 230...400 V, 50/60 Hz, 3P4W

ORDER CODE	230 V kVar	400 V kVar	440 V kVar	480 V kVar	500 V kVar	690 V kVar	Phase Current A	Dimension mm WxDxH	Weight Kg	Protection Degree	Type
GESVG3P4W20W400	12	20	-	-	-	-	30	430 x 178 x 530	21	IP20	W
GESVG3P4W40W400	24	40	-	-	-	-	60	430 x 348 x 530	39	IP20	W
GESVG3P4W69W400	40	69	-	-	-	-	100	439 x 288 x 745	56	IP20	W

Cabinet type for system 230...480 V and 500...690 V, 50/60 Hz, 3P3W

ORDER CODE	230 V kVar	400 V kVar	440 V kVar	480 V kVar	500 V kVar	690 V kVar	Phase Current A	Dimension mm WxDxH	Weight Kg	Protection Degree*	Type
GESVG3P3W100C480	57,5	100	100	100	-	-	145	608 x 812 x 1890	190	IP20	C
GESVG3P3W200C480	115	200	200	200	-	-	290	608 x 812 x 1890	245	IP20	C
GESVG3P3W300C480	172,5	300	300	300	-	-	435	608 x 812 x 1890	300	IP20	C
GESVG3P3W400C480	230	400	400	400	-	-	580	608 x 812 x 1890	355	IP20	C
GESVG3P3W100C690	-	-	-	-	72	100	84	608 x 812 x 1890	192	IP20	C
GESVG3P3W200C690	-	-	-	-	144	200	168	608 x 812 x 1890	249	IP20	C
GESVG3P3W300C690	-	-	-	-	216	300	210	608 x 812 x 1890	306	IP20	C
GESVG3P3W400C690	-	-	-	-	288	400	280	608 x 812 x 1890	363	IP20	C

Cabinet type for system 230...400 V and 440...480 V, 50/60 Hz, 3P4W

ORDER CODE	230 V kVar	400 V kVar	440 V kVar	480 V kVar	500 V kVar	690 V kVar	Phase Current A	Dimension mm WxDxH	Weight Kg	Protection Degree*	Type
GESVG3P4W69C400	40	69	-	-	-	-	100	608 x 812 x 1890	190	IP20	C
GESVG3P4W138C400	80	138	-	-	-	-	200	608 x 812 x 1890	245	IP20	C
GESVG3P4W207C400	119	207	-	-	-	-	300	608 x 812 x 1890	300	IP20	C
GESVG3P4W276C400	159	276	-	-	-	-	400	608 x 812 x 1890	355	IP20	C
GESVG3P4W100C690	-	-	53	58	-	-	70	608 x 812 x 1890	192	IP20	C
GESVG3P4W200C690	-	-	106	116	-	-	140	608 x 812 x 1890	249	IP20	C
GESVG3P4W300C690	-	-	159	174	-	-	210	608 x 812 x 1890	306	IP20	C
GESVG3P4W400C690	-	-	212	232	-	-	280	608 x 812 x 1890	363	IP20	C

* Protection Degree IP54 on request



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