



ST-MAK Series Voltage Stabilizer

2500 kVA / 2000 kW

Three Phase Static Voltage Stabilizer



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- Each Phase Automatically Controlled
- Thyristor Technology with 1 Milisecond Response Time
- Micro Chip Controlled, Fast and Precisely
- No effect on the Load from Voltage Stabilizer
- High Input Power Factor (>0.99)
- High Efficiency up to 98%
- Optional Dual Input
- Wide Input Voltage Range
- Advanced Protection and Data Logging
- Short Circuit and Overload Protection
- Unlimited Number of Paralleled Modules
- Selectable Output Voltage Values
- Made in Europe User Internal Materials
- Manual Bypass Operation
- Over Voltage and Low Voltage Protection
- Small Footprint and Easy Maintenance
- Advanced Communication Capabilities
- Perfect Generator Compatibility
- Customizable with Power Supply with Batteries & Inverter



Marine Applications

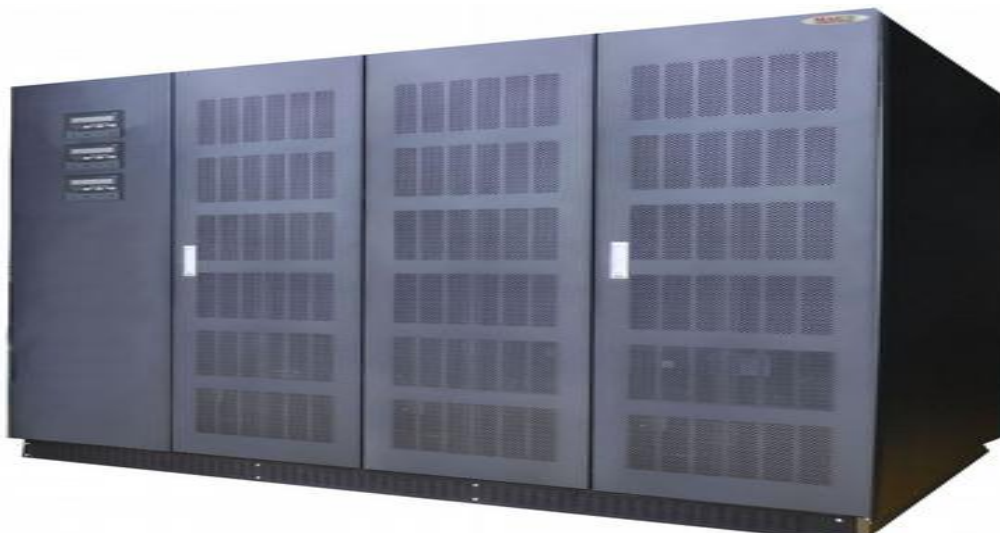


Outdoor Solutions



Customized Solutions

*3kVA *5kVA *10kVA *15kVA *20kVA *30kVA *45kVA *60kVA *75kVA *100kVA *120kVA *160kVA *200kVA *250kVA *300kVA *400kVA *500kVA *600kVA *800kVA *1000kVA





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2500 kVA

General Information of the Stabilizers



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STATIC VOLTAGE STABILIZER

ST-Mak Static Voltage Stabilizer; are the devices of microprocessor voltage control protection and management which are controlled, and which have high speed semiconductor technology. They are adjusted to the right voltage value required by industrial devices that are fastly growing and that are becoming more sensitive; and they are designed to meet their continuous, settled and secure energy needs.

Nowadays, thousands of users who have totally different characteristics such as plants, hospitals, public buildings, houses, farms, constructions etc. use the same main grid. Mak Static Voltage Stabilizer optimizes the irregular electricity which different users receive from city main grid at the same time, in accordance with only your business and the electronic devices you use.

ST-Mak Static Voltage Stabilizer which can be produced in a very wide input voltage interval for places where grid voltages drop or rise excessively; evaluates grid voltage decreases and increases in 0.020 seconds when the main grid voltage drops -60% or rises +%40 and corrects with 500V/sec. Speed. By this means, your expensive industrial devices are protected against dangerous voltage changes and also it enables your systems to work with high efficiency and without interruption.

ST-Mak Static Voltage Stabilizer is developed to solve the technical problems the users experience with Thyristor Type Voltage Regulators with electronic/ trafo structure which are widely used. Motor-chain systems used in electro-mechanic voltage regulators work slowly and this can not prevent many electronic devices from being affected by voltage decreases. With its microprocessor controlled semiconductor power control system, Mak Static Voltage Stabilizer works 10 times more faster than electro-mechanic systems.

Brush-coal system which is used for transferring power in electro-mechanic regulators are not applicable for dusty and damp industrial environments and requires periodic maintenance. Semiconductor thyristor units used in Mak Static Voltage Stabilizer work in every kind of industrial environment without being affected by damp and without requiring maintenance. High energy losses arise because of large scale transformers and variac systems used in electro-mechanic systems. By using thyristor units in Mak Static Voltage Stabilizer, energy losses are reduced to 2%.

ST-Mak Static Voltage Stabilizer has High Voltage, Low Voltage, Over-temperature, Overload, Short Circuit and Phase Break protections for its own operating safety and also for all electronic devices in your business to work safely. There is a working safety. It is equipped with thermomagnetic fuses in its inputs and outputs.

ST-MAK Static Voltage Stabilizer is designed with its compact, esthetic and modular structure, in such a way that it can be easily connected with electric systems everywhere in the world. "BUS-BAR PANEL INPUT-OUTPUT MODULE" which is required for direct connection can be added to BUS BAR systems optionally on request.

Information such as Input Voltage, Output Voltage, and Load Amount etc. can be viewed; breakdown and warning information can be followed on LCD DISPLAY which is standard in Mak SVS. One may reach devices over on the web, view all information on LCD DISPLAY and change set values of the device with "REMOTE VIEWING AND MANAGEMENT".



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MAK 
POWER SYSTEMS
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ST-MAK SERIES TECHNICAL SPECIFICATIONS of STATIC VOLTAGE STABILIZER	
3P SERIES / THREE PHASE INPUT - THREE PHASE OUTPUT	
	3P2500
Power	2000 kW
Power Factor	0,8
	INPUT
Voltage	400 V AC Three Phase + Neutral (Optional 380 - 415 V AC - 440V or American 230V)
Voltage Range	320 V AC - 460 V AC (155 - 550 V AC Optional)
Frequency	50 Hz. +/-%5 (60 Hz. Optional)
	OUTPUT
Voltage	400 V AC Three Phase + Neutral (Optional 380 - 415 V AC - 440V or American 230V)
Voltage Range	+% 2 (+%1 Optional)
Current (Each phase)	3612 A
Overload Response	% 101 - %125 Load 1 Min. / % 126 - %150 Load 10 Sec. / % 151 - Load 0,2 Sec.
Frequency	50 Hz. +/-%5 (60 Hz. Optional)
Correction Speed	500 V/sec
Efficiency	> % 97
Input&Output Con.	Screwed Terminal
LCD Display	4x16 character LCD : Input Volt., Output Volt., % Load, Output Frequency, Stabilizer Cond. & Failure Info, Over Load, Over Temperature, Input Failure, etc warnings.
Communication	Through a software support and "Remote Management System" Option RS-485 Communication port, Ethernet, the ability of monitoring and controlling
	PROTECTION
Output Protection	When Output Voltage out of 321 V AC - 459 V AC tolerance values , Output Off Digitally
Current Protection	1-Fuse protection with MCB at Input or Output 2-Electronic Over Current Protection Via Microprocessors
By-pass	Manuel By-Pass for failure and Maintenance
Surge Arrester	Suitable Surge Arrester unit for lightning and high voltage (Optional)
	GENERAL
Operating Temp.	-5 °C ~ +45 °C (-15 °C ~ +55 °C Optional)
Altitude	< 3000 m
Humidity	% 90 non condensed
Acoustic Noise	< 50 dB
Dimension (WxDxH)	3 Pieces for Each Phase "1250mm x 1750mm x 1950mm"
Weight (Kg)	3 x 1950kg / 3 x 2100kg

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ST-MAK Series Voltage Stabilizer

Single Line Diagram



2000- 2500kVA Static Voltage Regulator(SVR) / 3 phase /Power Connection Plan -

