TSVR SERIES STATIC ELECTRONIC VOLTAGE STABILIZER

PRODUCT SPECIFICATIONS

WHAT IS STATIC VOLTAGE STABILIZER?

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

WHAT ARE THE APPLICATION FIELDS?

TSVR 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 rise +40% and corrects with 500V/sec. Speed. By this means, your high-cost industrial devices are protected against dangerous voltage changes and also it enables your systems to work with high efficiency and without interruption.

HOW DO WE DESIGN?

TSVR Static Voltage Stabilizer is designed with its compact, aesthetic 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 TSVR SVS. One may reach devices over on the web, view all information on LCD DISPLAY and change setting values of the device with “REMOTE VIEWING AND MANAGEMENT”.

HOW DO WE PROTECT YOUR MACHINES?

TSVR 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 “Manual By-pass” unit which enables the loads to be transferred directly to network voltage for providing usage flexibility and working safety. It is equipped with thermomagnetic fuses in its input and output terminals.

STRUCTURAL SPECIFICATIONS

- 2kVA - 3200kVA with single phase and three phase outputs
- All industrial voltage value (208 - 380 - 400 - 415 - 480 - 600V)
- Wide input voltage range -65% / +45%
- Maintenance-free new technology with Microprocessor controller
- High speed regulation (Up to 500V/sec.)
- High Efficiency (97%)
- Self-test facility
- A circuit breaker is used with an appropriate value according to the nominal input voltage
- CPU controlled thyristor units for power management
- Protection against over load, over temperature, high voltage, low voltage etc.
- Flexible design and software property that can easily orient itself to different grid and voltage conditions
- On / Off and manual by-pass switch for working through grid, in cases where malfunction happens or when maintenance needs
- Real static-modular design with THYRISTOR technology used in power units and SMPS technology in feeding units
- “Remote Management System” and software support by which the user can remotely view manage all of these information
- Production according to ISO 9001:2008 Quality Management System
- New technological design that is suitable for industrial environments like very dusty conditions, humidity and vibration
- Maintenance free design
- Safe usage for all electrical devices
- Minimal size, long life
- User friendly, easy and comprehensive LCD Display and mimic diagram
- Compact structure with high quality material and minimum malfunction hazard
- Surge Arrester against sudden voltage increases and streaks lightning
- Spare part providing guarantee for 10 years

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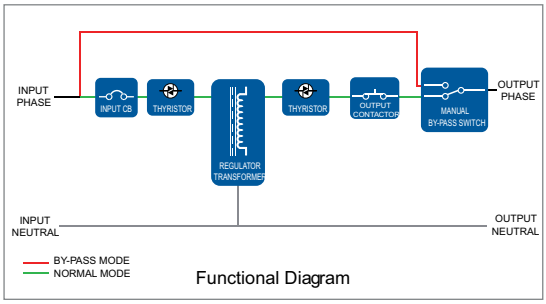

Functional Diagram

TECHNICAL SPECIFICATIONS OF TSVR MODEL SINGLE PHASE STATIC VOLTAGE STABILIZER										
MODEL	TSVR 1102	TSVR 1103	TSVR 1105	TSVR 1108	TSVR 1110	TSVR 1115	TSVR 1120	TSVR 1130	TSVR 1140	TSVR 1150
POWER (kVA)	2	3	5	7,5	10	15	20	30	40	50
Power Range	0,8									
INPUT										
Voltage	220 V AC Single Phase + Neutral									
Voltage Tolerance	-20%, +15%									
Frequency	50Hz ± 5%									
Input Connection	Copper busbar terminal									
OUTPUT										
Voltage	220 V AC Single Phase + Neutral									
Voltage Tolerance	± 3%									
Frequency	50 Hz ± 5%									
Current	8A	11A	19A	28A	37A	55A	73A	110A	145A	182A
Overload Capability	101%-125% 3 min., 126%-150% 10 sec., 151% load 0,2 sec., after then output shut-off									
Response Time	20 m/sec									
Correction Speed	500 V/sec									
Efficiency	> 97% typical									
Output Connection	Copper busbar terminal									
LCD Display	Input Voltage Value, Output Voltage Value, Output Load Percent, Output Frequency, Stabilizer Condition and Failure Info, Warnings (Overload, over temperature, input failure, output failure, etc)									
Communication	Though a software support and “Remote Management System” (Via Network), the ability of monitoring and management (optional)									
PROTECTION										
Input Voltage Protection	Stabilizer shut off electronically under / over voltage									
Output Voltage Protection	Stabilizer shut off electronically under / over voltage									
Input Current Protection	MCB								MCCB	
Output Current Protection	MCB								MCCB	
Output Overload Protection	Stabilizer shut off, 101%-125% 3 min., 126%-150% 10 sec., %151 load 0,2 sec., after then output shut-off									
Over Temperature Protection	Stabilizer shut off for over - temperature									
Manual By-Pass Switch	(ı-0-ıı) position manual By-Pass switch for failure and maintenance									
Surge Arrester	Suitable surge arrester unit for lightning and high voltage (optional)									
ENVIRONMENTAL CONDITIONS										
Operating Temperature	-10 °C ~ +40 °C									
Altitude	< 3000 m									
Humidity	90% none condensed									
Acoustic Noise	< 45 dB									< 50 dB
CABIN SPECIFICATIONS										
Type	Indoor									
Protection Class	IP 21									
Color	RAL 7035									
Base	Wheel / Plinth									
Cooling	Air forced Fans									
Dimensions (WxDxH) cm	20x41x37			27x45x46				31x52x52		33x76x76
Weight (kg)	23	25	30	35	40	45	85	100	140	160

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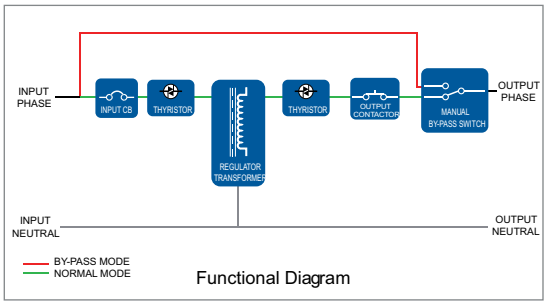

Functional Diagram

TECHNICAL SPECIFICATIONS OF TSVR MODEL THREE PHASE STATIC VOLTAGE STABILIZER									
MODEL	TSVR 3310	TSVR 3315	TSVR 3323	TSVR 3330	TSVR 3345	TSVR 3360	TSVR 3375	TSVR 33100	TSVR 33120
POWER (kVA)	10	15	23	30	45	60	75	100	120
Power Range	0,8								
INPUT									
Voltage	380 V AC Three Phase + Neutral								
Voltage Tolerance	-20%, +15%								
Frequency	50Hz ± 5%								
Input Connection	Screwed Terminal								
OUTPUT									
Voltage	380 V AC Three Phase + Neutral								
Voltage Tolerance	± 3%								
Frequency	50 Hz ± 5%								
Current	13 A	19A	28A	37A	55A	73A	91A	122A	145A
Overload Capability	101%-125% 3 min., 126%-150% 10 sec., 151% load 0,2 sec., after then output shut-off								
Response Time	20 m/sec								
Correction Speed	500 V/sec								
Efficiency	> 97% typical								
Output Connection	Screwed Terminal								
LCD Display	Input Voltage Value (Three Phases, between phase and neutral), Output Voltage Value (Three Phases, between phase and neutral), Output Load Percent /each phase, Output Frequency, Stabilizer Condition and Failure Info, Warnings (Overload, over temperature, input failure, output failure, etc)								
Communication	Though a software support and “Remote Management System” (Via Network), the ability of monitoring and management (optional)								
PROTECTION									
Input Voltage Protection	Stabilizer shut off electronically under / over voltage								
Output Voltage Protection	Stabilizer shut off electronically under / over voltage								
Input Current Protection	MCB				MCCB				
Output Current Protection	MCB				MCCB				
Output Overload Protection	Stabilizer shut off, 101%-125% 3 min., 126%-150% 10 sec., %151 load 0,2 sec., after then output shut-off								
Over Temperature Protection	Stabilizer shut off for over - temperature								
Manual By-Pass Switch	(I-0-II) position manual By-Pass swicth for failure and maintenance								
Surge Arrester	Suitable surge arrester unit for lightning and high voltage (optional)								
ENVIRONMENTAL CONDITIONS									
Operating Temperature	-10 °C ~ +40 °C								
Altitude	< 3000 m								
Humidity	90% none condensed								
Acoustic Noise	< 50 dB							< 55 dB	
CABIN SPECIFICATIONS									
Type	Indoor								
Protection Class	IP 21								
Color	RAL 7035								
Base	Wheel / Plinth								
Cooling	Air forced Fans								
Dimensions (WxDxH) cm	33x76x76					50x70x130			60x80x150
Weight (kg)	100	115	125	140	150	200	240	280	350

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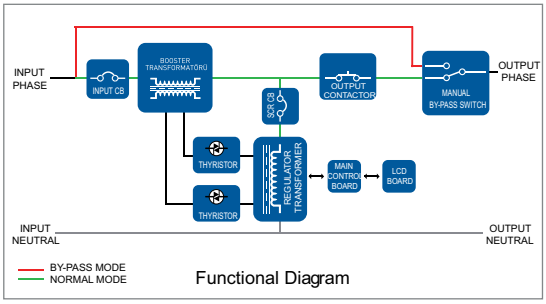

Functional Diagram

TECHNICAL SPECIFICATIONS OF TSVR MODEL THREE PHASE STATIC VOLTAGE STABILIZER					
MODEL	TSVR 33150	TSVR 33200	TSVR 33250	TSVR 33300	TSVR 33400
POWER (kVA)	150	200	250	300	400
Power Range	0,8				
INPUT					
Voltage	380 V AC Three Phase + Neutral				
Voltage Tolerance	-20%, +15%				
Frequency	50Hz ± 5%				
Input Connection	Screwed Terminal				
OUTPUT					
Voltage	380 V AC Three Phase + Neutral				
Voltage Tolerance	± 3%				
Frequency	50 Hz ± 5%				
Current	182A	245A	300A	365A	485A
Overload Capability	101%-125% 3 min., 126%-150% 10 sec., 151% load 0,2 sec., after then output shut-off				
Response Time	20 m/sec				
Correction Speed	500 V/sec				
Efficiency	> 97% typical				
Output Connection	Screwed Terminal				
LCD Display	Input Voltage Value (Three Phases, between phase and neutral), Output Voltage Value (Three Phases, between phase and neutral), Output Load Percent /each phase, Output Frequency, Stabilizer Condition and Failure Info, Warnings (Overload, over temperature, input failure, output failure, etc)				
Communication	Though a software support and “Remote Management System” (Via Network), the ability of monitoring and management (optional)				
PROTECTION					
Input Voltage Protection	Stabilizer shut off electronically under / over voltage				
Output Voltage Protection	Stabilizer shut off electronically under / over voltage				
Input Current Protection	MCCB				
Output Current Protection	MCCB				
Output Overload Protection	Stabilizer shut off, 101%-125% 3 min., 126%-150% 10 sec., %151 load 0,2 sec., after then output shut-off				
Over Temperature Protection	Stabilizer shut off for over - temperature				
Manual By-Pass Switch	(ı-0-ıı) position manual By-Pass switch for failure and maintenance				
Surge Arrester	Suitable surge arrester unit for lightning and high voltage (optional)				
ENVIRONMENTAL CONDITIONS					
Operating Temperature	-10 °C ~ +40 °C				
Altitude	< 3000 m				
Humidity	90% none condensed				
Acoustic Noise	< 60dB				
CABIN SPECIFICATIONS					
Type	Indoor				
Protection Class	IP 21				
Color	RAL 7035				
Base	Wheel / Plinth				
Cooling	Air forced Fans				
Dimensions (WxDxH) cm	80x90x140		80x90x160	90x100x160	
Weight (kg)	500	600	700	800	1000

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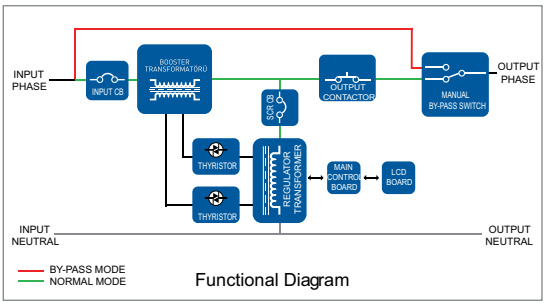

Functional Diagram

TECHNICAL SPECIFICATIONS OF TSVR MODEL THREE PHASE STATIC VOLTAGE STABILIZER											
MODEL	TSVR 33500	TSVR 33600	TSVR 33700	TSVR 33800	TSVR 33900	TSVR 331000	TSVR 331250	TSVR 331600	TSVR 332000	TSVR 332500	TSVR 333200
POWER (kVA)	500	600	700	800	900	1000	1250	1600	2000	2500	3200
Power Range	0,8										
INPUT											
Voltage	380 V AC Three Phase + Neutral										
Voltage Tolerance	-25%, +15%										
Frequency	50Hz ± 5%										
Input Connection	Screwed Terminal										
OUTPUT											
Voltage	380 V AC Three Phase + Neutral										
Voltage Tolerance	± 3%										
Frequency	50 Hz ± 5%										
Current	610A	730A	850A	970A	1100A	1220A	1500A	1950A	2540A	3050A	3900A
Overload Capability	101%-125% 3 min., 126%-150% 10 sec., 151% load 0,2 sec., after then output shut-off										
Response Time	20 m/sec										
Correction Speed	500 V/sec										
Efficiency	> 97% typical										
Output Connection	Screwed Terminal										
LCD Display	Input Voltage Value (Three Phases, between phase and neutral), Output Voltage Value (Three Phases, between phase and neutral), Output Load Percent /each phase, Output Frequency, Stabilizer Condition and Failure Info, Warnings (Overload, over temperature, input failure, output failure, etc)										
Communication	Though a software support and “Remote Management System” (Via Network), the ability of monitoring and management (optional)										
PROTECTION											
Input Voltage Protection	Stabilizer shut off electronically under / over voltage										
Output Voltage Protection	Stabilizer shut off electronically under / over voltage										
Input Current Protection	MCCB with motor										
Output Current Protection	Motorized MCCB (optional)										
Output Overload Protection	Stabilizer shut off, 101%-125% 3 min., 126%-150% 10 sec., %151 load 0,2 sec., after then output shut-off										
Over Temperature Protection	Stabilizer shut off for over - temperature										
Manual By-Pass Switch	(ı-0-ıı) position manual By-Pass switch for failure and maintenance										
Surge Arrester	Suitable surge arrester unit for lightning and high voltage (optional)										
ENVIRONMENTAL CONDITIONS											
Operating Temperature	-10 °C ~ +40 °C										
Altitude	< 3000 m										
Humidity	90% none condensed										
Acoustic Noise	< 60 dB					< 65 dB					
CABIN SPECIFICATIONS											
Type	Indoor										
Protection Class	IP 21										
Color	RAL 7035										
Base	Wheel / Plinth										
Cooling	Air forced Fans										
Dimensions (WxDxH) cm	90x120x170			240x80x170			250x100x170		290x125x170	300x125x220	330x125x220
Weight (kg)	1100	1300	1500	1900	2100	2300	2700	3100	3500	4000	5000