

MST

SERIES

10-2000 kVA **3:3**
PHASE

1-30 kVA **1:1**
PHASE

STATIC VOLTAGE STABILIZER



INDUSTRY



TRANSPORT



MEDICAL



TOWER



POWER FACTOR



SERVICE



HIGHLIGHTS

- Microprocessor Controlled Voltage Stabilisation
- Precise Output Voltage Accuracy
- True Static-Modular Design with Thyristor Technology
- High Voltage Regulation Speed
- Maintenance Free

Highly Reliable and Endurable Static Design

- Microprocessor controlled Static design stabilizers automatically regulate and protect the loads against dangerous voltage changes.
- Compatible with all load types and offering independent phase control, they deliver ultra-fast response times in correcting under / over voltages, sags and surges - making them ideal for highly sensitive / mission critical loads and applications.

CERTIFICATES

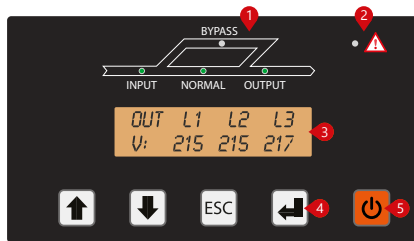


POWER
FORLIFE

MAKELSAN®
Uninterruptible Power Supplies

Standard Electrical Features

- Wide Input Voltage Range
- Precise Output Voltage Accuracy $\pm 1\%$ to $\pm 5\%$
- Ultra Fast Voltage Regulation (500V/s)
- True 32-bit Microcontroller Controlled
- High Efficiency >97%
- Independent Phase Regulation to Correct Voltage and Load Imbalance
- Electronic Protection Against Over Load, Low Voltage, High Voltage, Over Temperature, Over Current and Short Circuit
- Overload Protection up to 150%
- Fast Responsive to Voltage Surges
- User Friendly, Easy and Comprehensive LCD Display and Mimic Diagram



1. Input Led
Bypass Led
Normal Led
Output Led
2. Alarm/Warning Led
3. LCD Display
4. Menu Keys
5. On/Off Button

- Advanced Alarm Menu
- Manual Bypass
- Auto Restart when Mains Available
- 512 Events Log Memory (Opt.)
- Full Electronic Static Structure with No Moving Parts, Delivering a 'Maintenance Free' Voltage Regulation Solution
- Compact Design with High Quality Material and Minimum Malfunction Hazard
- Designed, Manufactured and Supplied to Comply with
- Fully CE Compliant and Labelled

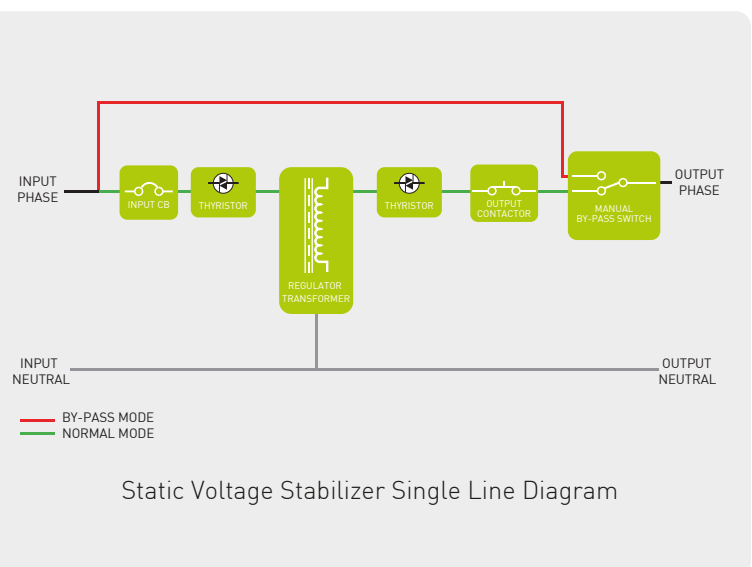
Flexibility

- Available at any required input voltage value and range.
- Available at any required output voltage value and tolerance from $\pm 1\%$ to $\pm 5\%$.
- Output voltage can be adjusted by the LCD panel.
- Functionable with 50Hz and 60Hz.
- Optional MCCB can be added to the output to provide additional protection.
- Optional automatic by-pass unit can be added to the output.
- Isolation transformer or voltage changing auto-transformer can be added for both input and output.
- Indoor and outdoor special cabinets with various IP protection classes can be provided.
- Optional EMC-filters at both input and output.
- Optional high-voltage protection and surge arrester.
- Input and output terminals can be designed and located specially on the cabinet.
- Optional Modbus.

MICROPROCESSOR CONTROLLED THYRISTOR TECHNOLOGY

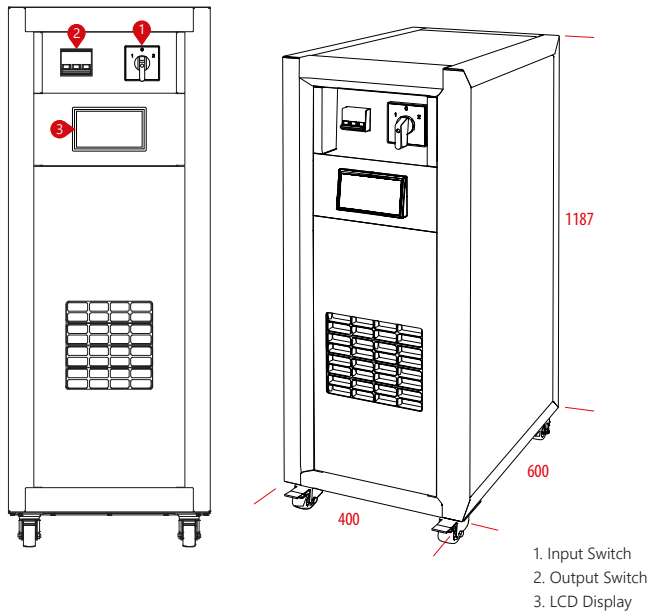
Based on high speed semiconductor (Thyristor) technology and all digital microprocessor control, MST Series Static Voltage Stabilizers continuously monitor the incoming supply. Should the incoming voltage rise or drop, the stabilizers will automatically control the output to ensure the voltage reaching the load equipment always remains constant at the requisite voltage.

Inbuilt spike protection ensures the load is continuously protected against harmful mains born high energy spikes and surges.

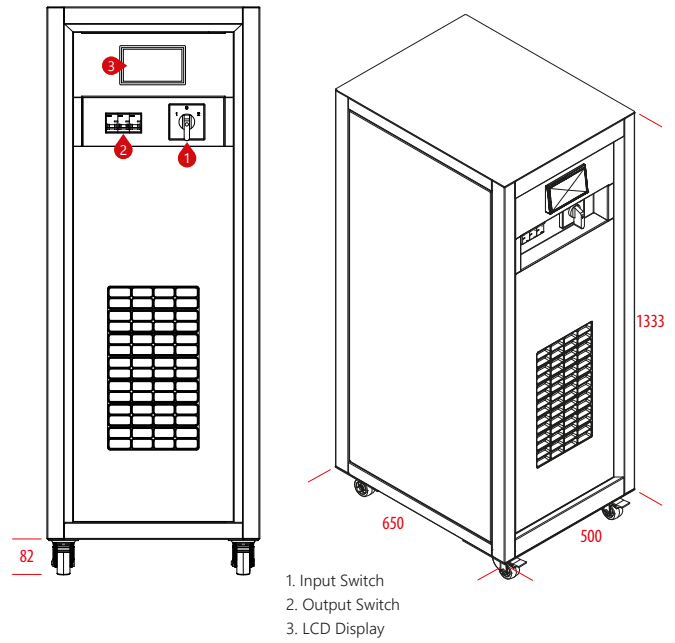


DETAILS

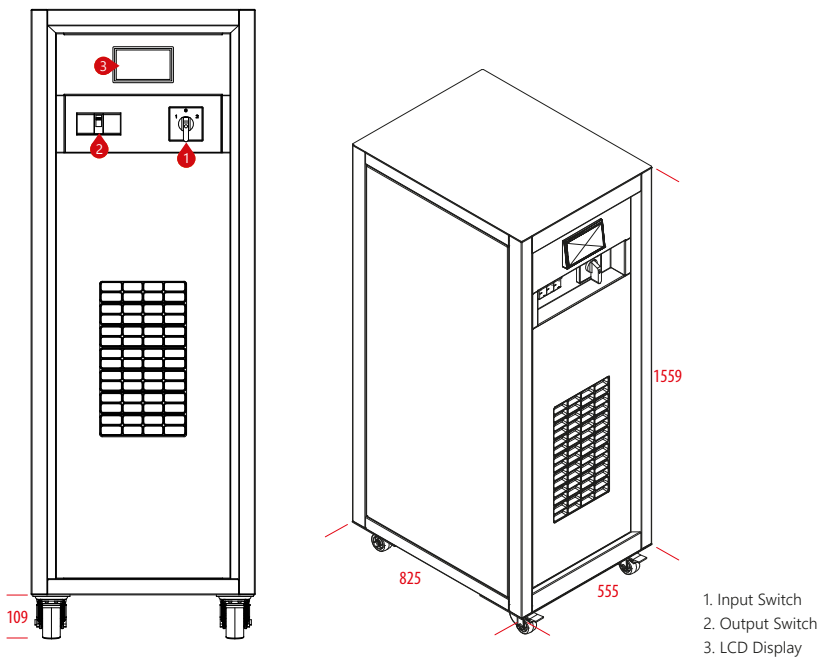
MST SERIES 10-30 kVA



MST SERIES 40-60-75 kVA

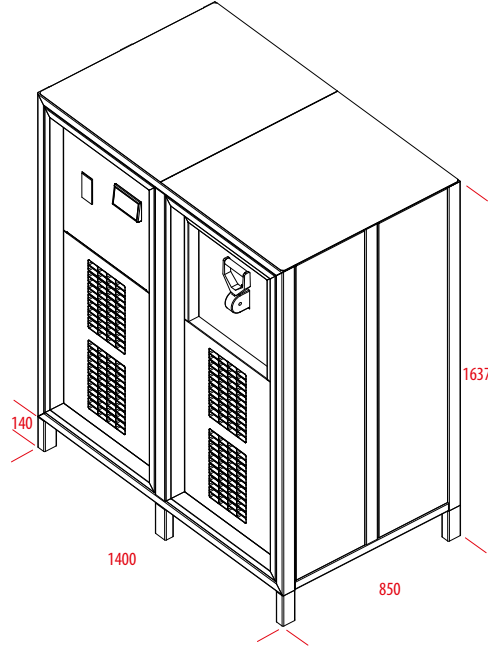
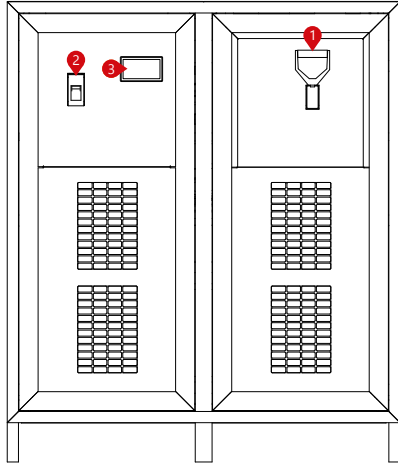


MST SERIES 100-120-150 kVA



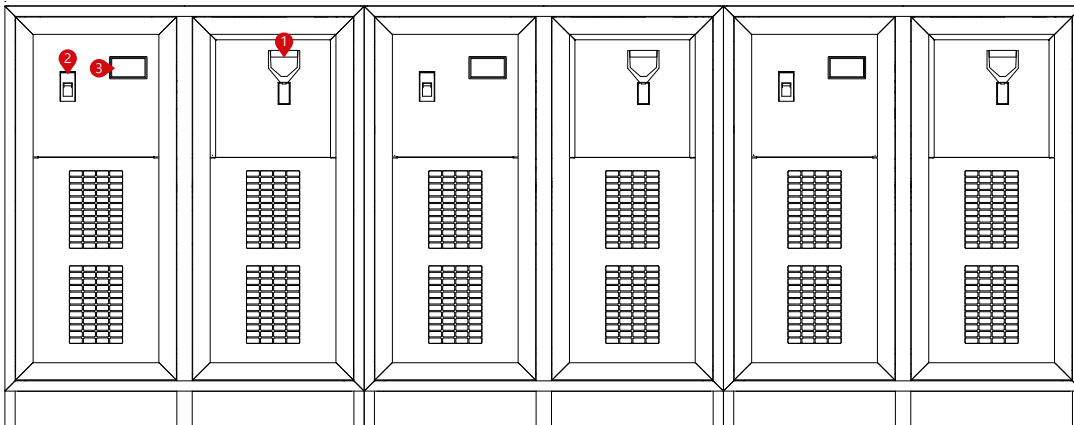
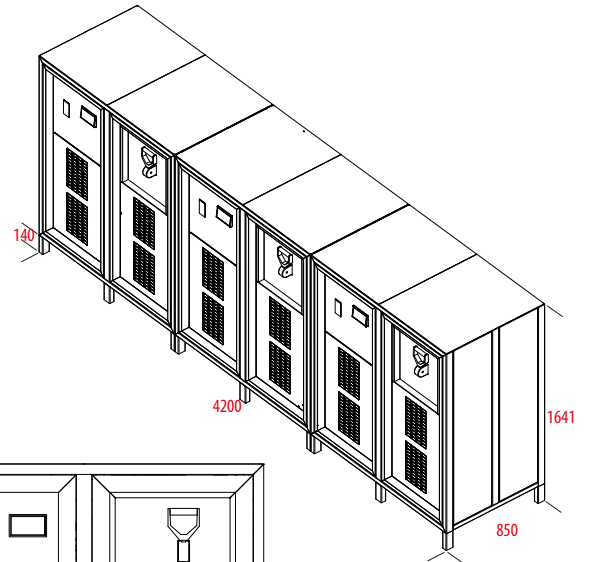
DETAILS

MST SERIES 200-300-400-500-600 kVA



- 1. Input Switch
- 2. Output Switch
- 3. LCD Display

MST SERIES 800-1000-1250 kVA



- 1. Input Switch
- 2. Output Switch
- 3. LCD Display

MODEL		10	15	22,5	30	45	60	75	100	120	150	200	300	400	500	600	800	1000	1250	1500	2000				
INPUT																									
In. Vol. Correct. Interval		275~450 VAC (Optional: 190V~485V)																							
Operation Frequency		50~60 Hz (±10%)																							
Line Input Protection		Overcurrent Thermic Fuse																							
OUTPUT																									
Output Voltage		380 VAC RMS ±3% (Std.)					380 VAC RMS ±5% (Optional 1% to 5%)																		
Overloading		10min 125% Load, 1min 150% Load, 10sec 200% Load, 20ms 500% Load																							
Correction Speed		500 Volt/sec																							
Upturn Period		20ms																							
Output Protection		Short Circuit, Overload, Overtemperature, Over and Low Voltage Protections																							
WORKING PRINCIPLE		Microprocessor Controlled, Full Automatic, Static, Semi Conductor Electronic Structure Maintenance Free																							
CONTROL PANEL																									
Display and Buttons		Load Level, Input-Output Voltage																							
Alert Message		Input Low/High, Output Low/High, Overtemperature																							
GENERAL																									
Efficiency		>97% (Full Load)																							
Mechanical Bypass		"Manually Controlled Line - PAKO SWITCH Selects Voltage Regulator" Switch Turn On/Off																							
Protection Level		IP20																							
Standard		TS EN 61000-6-2:2006, TS EN 61000-6-3:2007 (EMC), IEC60204-1+A1:2008 (LVD)																							
ENVIRONMENT																									
Operating Temperature		-10°C~50°C																							
Storage Temperature		-25°C~60°C																							
Relative Humidity		<90%, DIN (40040)																							
Altitude		<2000m																							
Noise Level		<50 dB				<55 dB				<58 dB				<58 dB				<63 dB							
DIMENSIONS & WEIGHT																									
Cabinet Dimensions (mm)	Width	400				500				555				1400				4200							
	Depth	600				650				825				850				850							
	Height	1187				1333				1559				1637				1637							
Weight (Kg)		80	95	112	120	175	203	233	277	320	369	639	775	857	930	2500	2750	3500	3750	4500	5500				

Makelsan reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Makelsan products previously or subsequently sold. Makelsan does not guarantee the items of the accuracy and completeness.

MODEL									
Capacity (kVA)		1	2	3	7,5	10	15	20	30
INPUT									
In. Vol. Correct. Interval		120~230 / 145~245 / 160~250 VAC							
Operation Frequency		50~60 Hz (±10%)							
Line Input Protection		Overcurrent Thermic Fuse							
OUTPUT									
Output Voltage		380 VAC RMS ±3% (Std.)		380 VAC RMS ±5% (Optional 1% to 5%)					
Overloading		10min 125% Load, 1min 150% Load, 10sec 200% Load, 20ms 500% Load							
Correction Speed		500 Volt/sec							
Upturn Period		20ms							
Output Protection		Short Circuit, Overload, Overtemperature, Over and Low Voltage Protections							
WORKING PRINCIPLE		Microprocessor Controlled, Full Automatic, Static, Semi Conductor Electronic Structure Maintenance Free							
CONTROL PANEL									
Display and Buttons		Load Level, Input-Output Voltage							
Alert Message		Input Low/High, Output Low/High, Overtemperature							
GENERAL									
Efficiency		>97% (Full Load)							
Mechanical Bypass		"Manually Controlled Line - PAKO SWITCH Selects Voltage Regulator" Switch Turn On/Off							
Protection Level		IP20							
Standard		TS EN 61000-6-2:2006, TS EN 61000-6-3:2007 (EMC), IEC60204-1+A1:2008 (LVD)							
ENVIRONMENT									
Operating Temperature		-10°C~50°C							
Storage Temperature		-25°C~60°C							
Relative Humidity		<90%, DIN (40040)							
Altitude		<2000m							
Noise Level		<50 dB							
DIMENSIONS & WEIGHT									
Dimensions (mm)	Width	192		260			430		
	Depth	361		453			596		
	Height	352		416			777		

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