STATIC VOLTAGE REGULATOR



Instantaneous Voltage Correction for Protection of Precision Equipments





- Mitigates voltage sags & swell
- Voltage spike & noise control
- Real-time voltage compensation
- Fault correction within 20msec

Static voltage regulators, as the name suggests, are static – they don't have moving parts. Instead, they have an electronic circuit based on Insulated-Gate Bipolar Transistor (IGBT) technology to control voltage. With the help of microprocessors and buck-boost transformers, these regulators correct the voltage fluctuations. With Static voltage regulators we can develop more customized models to offer solutions to the market to perfectly suit the diversified power applications.

KEY FEATURES AND BENEFITS TO CONSUMER

- · Ideal voltage conditioner as voltage sags & swell are mitigated within 20msec
- · Eliminates the need of additional spike & noise filters
- · Highly compatible with regenerative loads
- Eliminates the need of UPS on sensitive loads thus optimizing the cost
- · Increased life of precision equipments
- · Automatic bypass for failsafe operation
- Efficiency >97% ensuring energy saving through efficient operation
- Quiet operation with reduced downtime and low maintenance
- · Light weight and compact in size, Ease of installation, Fan-cooled
- · Input MCBs provided inbuilt to prevent costly equipment damage due to load side faults
- · Higher productivity due to control over electronic card failures and machine breakdowns

1 PHASE



Selectable O/P 220V / 230V / 240V

180 - 280V AC for full regulation

Nominal operating voltage range

160 - 300V AC for ±10% compensation

Relaxed operating voltage range



Modbus RS485 Communication

3 PHASE



Selectable O/P 380V / 400V / 415V

320 - 480V AC for full regulation

Nominal operating voltage range

277 - 520V AC for ±10% compensation

Relaxed operating voltage range



Modbus RS485 Communication

TECHNICAL SPECIFICATIONS

SYSTEM	SINGLE PHASE	THREE PHASE				
RATINGS	2.5kVA to 10kVA	7.5kVA to 30kVA				
INPUT SPECIFICATIONS						
Nominal input voltage	230V AC	400V AC				
Normal operating voltage (typical output regulation within 1% of nominal)	180 - 280V AC for full regulation	320 – 480V AC for full regulation				
Operating frequency	47-65 Hz					
Maximum rated input current	For 2.5kVA - 14A, For 5kVA - 27A For 7.5kVA - 42A, For 10kVA - 55A For 2.5kVA - 42A per phase, For 30kVA - 55A For 22.5kVA - 42A per phase, For 30kVA - 55A					
Input MCB rating	For 2.5kVA - 20A, For 5kVA - 32A For 7.5kVA - 20A, For 15kVA - 32A For 7.5kVA - 50A, For 10kVA - 63A For 22.5kVA - 50A, For 30kVA - 63A					
Input connection	Terminal block (R, N and E)	Terminal block (R, Y, B, N and E)				
Input wire size	For 2.5kVA 4 sq.mm (AWG 12) For 5kVA - 6 sq.mm (AWG 10) For 7.5kVA - 6 sq.mm (AWG 10) For 10kVA - 10 sq.mm (AWG 8)	For 7.5kVA - 4 sq.mm (AWG 12) For 15kVA - 6 sq.mm (AWG 10) For 22.5kVA 6 sq.mm (AWG 10) For 30kVA - 10 sq.mm (AWG 8)				
PERFORMANCE						
Eliminates voltage sags	Up to 50V (22 % considering 230V nominal)					
Swell compensation	Up to 50V (20% cons	idering 230V nominal)				
Compensation irrespective of phase	Y	es				
OUTPUT SPECIFICATIONS						
Nominal output voltage	230V AC	400V AC				
Output voltage range	220-230-240V AC (Selectable)	400VAC Ph - Ph (220-230-240V Ph- Neutral Selectable)				
Power efficiency	, ,	20-100 % load conditions)				
Correction	Less than 20 msec					
Voltage compensation		550V				
Maximum rated output current	For 2.5kVA - 11A, For 5kVA - 22A For 7.5kVA - 33A, For 10kVA - 44A	For 7.5kVA – 11A/Ph, For 15kVA – 22A/Ph For 22.5kVA – 33A/Ph, For 30kVA – 44A/Ph				
Voltage regulation		1%				
Relaxed operating voltage for ±10% compensation	160 - 300V AC	277 - 520V AC				
Output connection	Terminal block (L, N and E)	Terminal block (L1, L2, L3, N and E)				
Load Bypass	Auto (activated within 5 sec of fault detection) / Manual selectable					
DISPLAY OPTIONS	(1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	,				
7 Segment LED display	Regular inpu	ut and output				
Bar graph LED		h resolution of 10%				
LED indication						
Buzzer indication	Overload, Overvoltage, Undervoltage, Overcurrent					
POWER SPECIFICATIONS	Power on, Overload, Overvoltage, Undervoltage, Overcurrent, Over temp					
	2 512/4 512/4 7 512/4 4012/4	7 514/4 4514/4 20 514/4 2014/4				
Capacity in kVA	2.5kVA, 5kVA, 7.5kVA, 10kVA	7.5kVA, 15kVA, 22.5kVA, 30kVA				
Power consumption	100VA	100VA per phase				
MECHANICAL PROPERTIES	F 0 F \	F. 7 FIVA 9 45IVA 047 0(II) - 000(AA) - 500(D)				
Dimensions (In mm)	For 2.5kVA & 5kVA - 282(W) x 353(H) x 282(D) mm For 7.5kVA & 10kVA - 353(W) x 445(H) x 347(D) mm approx.	For 7.5kVA & 15kVA - 617.3(H) x 368(W) x 530(D)mm For 22.5kVA & 30kVA - 643 (H) x 470(W) x 780(D)mm approx				
Weight	For 2.5kVA - 18 kg approx. , For 5kVA - 28 kg approx. For 7.5kVA - 35 kg approx. , For 10kVA - 50 kg approx.	For 7.5kVA - 60 kg approx. , For 15kVA - 85 kg approx. For 22.5kVA - 100 kg approx. , For 30kVA - 120 kg approx.				
Mounting	4 High Quality Castor wheels					
Warranty	3 ye	ears				
PROTECTION FUNCTIONS						
Input protection	Line overccurrent, overvoltage, undervoltage					
Output protection	Overload, Over current trip					
Overload & Short-circuit	Through suitable input circuit breaker					
Surge test conditions	As per class 2 Surge (Combination wave)					
Surge let-through voltages	1.2 X 50µs, 6kV, 8 X 20µs, 3 kA waveform. L-N < 300V					
ENVIRONMENT CONDITIONS						
Ambient temp.	0 - 50°C, 10 to 90% RH non-condensing					
Protection class	IP.	20				

ORDERING INFORMATION

Product Code	Description	HSN Code
STATIC VOLTAGE REGULATOR		<u>'</u>
SINE-1P-2.5-180/280V	Static voltage regulator, 1 phase 2.5kVA, 180/280V	
SINE-1P-5-180/280V	Static voltage regulator, 1 phase 5kVA, 180/280V	
SINE-1P-7.5-180/280V	Static voltage regulator, 1 phase 7.5kVA, 180/280V	
SINE-1P-10-180/280V	Static voltage regulator, 1 phase 10kVA, 180/280V	00000040
SINE-3P-7.5-340/480V	Static voltage regulator, 3 phase 7.5kVA, 340/480V	90328910
SINE-3P-15-340/480V	Static voltage regulator, 3 phase 15kVA, 340/480V	
SINE-3P-22.5-340/480V	Static voltage regulator, 3 phase 22.5kVA, 340/480V	
SINE-3P-30-340/480V	Static voltage regulator, 3 phase 30kVA, 340/480V	

* PRICES ON DEMAND

COMPARISON AT A GLANCE

FEATURES	STATIC VOLTAGE REGULATOR	SERVO VOLTAGE STABILIZER	ONLINE UPS	AUTO VOLTAGE REGULATOR	FERRO RESONANT CVT
Real-time voltage correction	Yes	Poor	Yes	No	Depend on load & line
Sag Elimination	Yes	No	Yes	No	Yes
Stepless correction	Yes	Yes	Yes	No	Yes
Surge Suppression	Yes	No	Yes	No	Yes
Ability to handle regenerative loading	Excellent, Undisturbed	Unstable	Poor	Satisfactory	Poor
Load regulation	Excellent	Excellent	Good	Good	Very Poor
Load compatibility	Excellent	Good	Poor	Poor	Poor
Moving parts	None	Yes	Yes	Yes	Yes
Reliability	Excellent	Satisfactory	Good	Poor	Good
Servicing	Simple (Plug & Play)	Support required	Simple (Battery maintenance)	Simple	Simple
Built-in Auto Bypass	Yes	No	Yes	No	No
Energy saving	Yes	Yes	No	Limited	No
Voltage overshoot	Never	Yes	Never	Yes	Can be very high
Soft-switching	Yes	No	Yes	No	No
Cost of Ownership	Extremely cost effective	High due to maintenance	Extremely high	High	High due to poor efficiency

APPLICATIONS



- AND MANY MORE... Induction molding machines Laser cutting machines CNC machines Laboratory equipment Food processing machines Robotics machines Auto & Auto-ancillary Oil & Gas Textile Wood cutting Plastic manufacturing Building management Radar & telecommunication

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