

STRONG PARENTAGE. BEST SOLUTIONS.

About TSi Elecpower

- A joint venture company with TSi Power, USA (www.tsipower.com)
- Launched at Vadodara, India by technocrats enriched with decades of experience in the industry of power conditioning.
- Key promoter & Managing Director being a technocrat from IIT, Kanpur & co-promoter being TSi Power.
- Licensing & technology transfer agreement for TSi range of power conditioning devices from TSi Power Corporation, USA.
- Experience of promoters spans across application of power conditioning & energy saving devices in industrial, commercial as well as residential sectors.
- Their experience covers a wide geographical area, covering not only USA & European countries with stable power, but also covering all such territories that suffer from the worst power quality issues, especially in Asia & Africa.
- They are, therefore, equipped to provide most updated solutions to your power quality issues.



OUTSTANDING
VOLTAGE
REGULATION
AND **GREAT**
CONSUMER
COMFORT

MISSION

The company will keep ushering in new technologies for higher consumer benefits. It will always strive to maintain simplicity, reliability and aesthetics in all its products & services for best consumer experience.

Product Range

- Single phase VRp- Precision PWM automatic voltage regulator; standard models up to 7.5 kVA
- Three phase VRp- Precision PWM automatic voltage regulator; standard models up to 45 kVA
- With an ILc or isolating line conditioner; in cases where isolation is a must
- With an NBT or neutral balancer; in cases where neutral floats heavily due to load unbalances
- Customized models available on request



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Precision PWM Automatic Voltage Regulator with Automatic Bypass

TSi RANGE OF VRp

TSi range of VRp automatic precision regulator allows trouble-free operation of electronic equipment over a very wide mains AC voltage range of 160-300 V, found in many developing countries. Thanks to the continuous Pulse Width Modulation (PWM) switching of a buck-boost transformer, there is no switching of taps or a break in the power path.

The high frequency insulated gate bi-polar transistor (IGBT) driven converter takes the incoming AC power, measures against the nominal voltage and adds or subtracts voltage, 20,000 times per second, to achieve precisely regulated 230 V AC output. This assures precise regulation, wave after wave, irrespective of fluctuations on incoming supply side.

BENEFITS

- Instantaneous Correction & outstanding voltage regulation makes it an ideal choice for all types of computerized, numerical data controlled machines
- Compatible with all loads as it does not switch any components in the power path
- Energy efficient replacement for energy guzzling CVT
- It's ultra-low impedance assures stability even with the most demanding loads
- The automatic bypass assures that connected equipment will not shut down, even if VRp fails
- Aesthetic design
- Compact size
- Low weight
- Quiet operation
- Two years' warranty

COMPARISON

FEATURES	Ferro - resonant CVT	Servo Voltage Stabilizer	VRp	VRp + ILc
Electrical Isolation	Yes			Yes
Step-less Voltage Correction	Yes	Yes	Yes	Yes
Instant Voltage Correction	Yes		Yes	Yes
Brown-outs Elimination			Yes	Yes
Surge & Spike Suppression	Yes		Yes	Yes
Any Nature of Load		Yes	Yes	Yes
Soft Start Technology	Yes		Yes	Yes
Static Design / No Moving Parts			Yes	Yes
Reliability against Breakdowns	Good	Maintenance Prone	Excellent	Excellent
Servicing / Installation	Simple	Support Needed	Simple (Plug and Play)	Simple (Plug and Play)
Bypass System			Built-in	Built-in
Energy Saving		Yes	Yes	Yes

APPLICATIONS



Computer Numerical
Controlled
(CNC) Machines



Printing
Machines



Industrial Process
Control & Automation



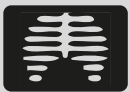
Mobile communications
(BTS sites)



Radio base stations or
TV broadcasting or Radar
or Microwave stations



Laboratory & analytical
measurement equipment

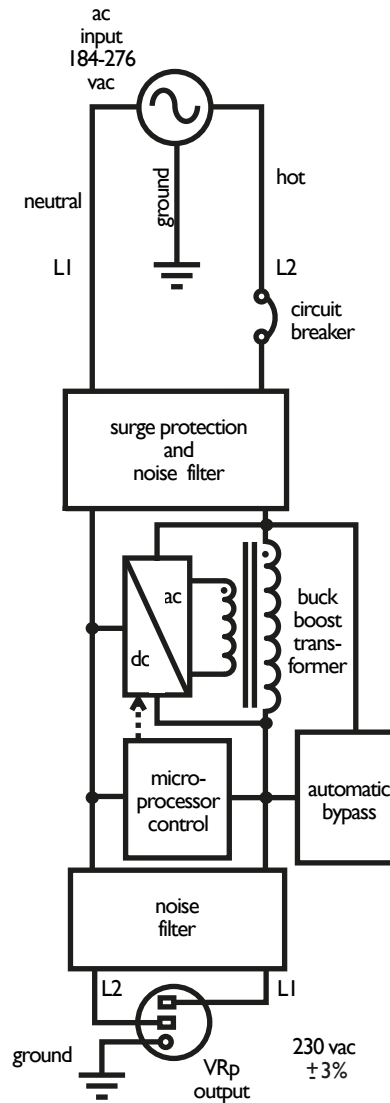


Medical &
Diagnostic



High end Residential &
Commercial comfort

VRp System Architecture



VRp
(Single Phase Model)



VRp
(Three Phase Model)

SPECIFICATIONS - SINGLE PHASE MODELS

CATEGORY		VRp-3000-9230	VRp-5000-9230	VRp-7500-9230
ELECTRICAL	Capacity in kVA (watts)	3 kVA (3000 W)	5 kVA (5000 W)	7.5 kVA (7500 W)
	Regulator Engine	High Frequency 20KHz IGBT Driven Voltage Regulation Converter		
INPUT	Nominal Voltage	230 VAC (Single Phase)		
	Normal Operating Voltage	184-276 VAC for full regulation		
	Relaxed Operating Voltage	160-300V for liberal regulation within rated input current capacity		
	Nominal Frequency	47-63 Hz		
	Input Circuit Breaker	Input Circuit Breaker (with limited inrush current capability)		
	Circuit Breaker Rating	20A	32A	40A
	Input Wire Size	6mm ² (AWG 10)	6mm ² (AWG 10)	10mm ² (AWG 8)
	AC Connection	Terminal Block (Lin, Nin and ground wires) provided		
OUTPUT	Nominal Voltage	230 VAC (Single Phase)		
	Power Efficiency	Better than 96% (with 20-100% load conditions)		
	Voltage Regulation	230 ±3%		
	Relaxed Voltage Regulation	200-250VAC over wider input range of 160-300VAC		
	Soft Start Feature	Inbuilt		
	Automatic Bypass	Automatic Bypass activates incase of a fault condition		
	System Status Indicator	Green LED (ON) indicates Normal (Regulating Mode) Operation		
	Surge Test Conditions	Per Class 2 Surge (Combination Wave)		
	Surge Let-through Voltages	1.2 X 50 μs, 6 kV, 8 X 20 μs, 3 kA waveform. Line-Neutral < 300		
	AC Connection	Terminal Block (Lo, No and ground wires) provided		
PHYSICAL (W x H x D)	Dimensions (in mm)	238 x 155 x 415		350 x 275 x 450
	(in inches)	9.4" x 6.1" x 16"		13.8" x 10.8" x 18"
	Weight	18 kgs (40 lbs)	23 kgs (51 lbs)	27 kgs (60 lbs)
SAFETY	Standards	Designed to meet UL 60950-1 standards. Protection class IP 20.		
ENVIRONMENTAL	Ambient Temperature	0° to + 40° Celsius (32° to +104° Fahrenheit). 10 to 90% RH non-condensing		
	Cabinet Cooling Method	Naturally Cooled		
WARRANTY	Validity	Two Year Warranty, covering repair/replacement of defective parts		

SPECIFICATIONS - THREE PHASE MODELS

CATEGORY		VRp-9000-9339	VRp-15000-9339	VRp-22500-9339	VRp-30000-9339	VRp-45000-9339
ELECTRICAL	Capacity in kVA (watts)	9 kVA (9000 W)	15 kVA (15000 W)	22.5 kVA (22500 W)	30 kVA (30000 W)	45 kVA (45000 W)
	Regulator Engine	High Frequency 20KHz IGBT Driven Voltage Regulation Convertor				
INPUT	Nominal Voltage	230 VAC (Phase to Neutral)				
	Normal Operating Voltage	184-276 VAC for full regulation				
	Relaxed Operating Voltage	160-300 V (Phase to Neutral) for liberal regulation within rated input current capacity				
	Nominal Frequency	47-63 Hz				
	Input Circuit Breaker	Input Circuit Breaker (with limited inrush current capability)				
	Circuit Breaker Rating	20A x 3 ganged	32A x 3 ganged	40A x 3 ganged	63A x 3 ganged	80A x 3 ganged
	Input Wire Size	6mm ² (AWG 10)	6mm ² (AWG 10)	10mm ² (AWG 8)	10mm ² (AWG 8)	16mm ² (AWG 6)
	AC Connection	Terminal Block (L1i, L2i, L3i, neutral and ground wires) provided				
OUTPUT	Nominal Voltage	230 VAC (Phase to Neutral)				
	Power Efficiency	Better than 96% (with 20-100% load conditions)				
	Voltage Regulation	230 ±3%				
	Relaxed Voltage Regulation	200-250VAC over wider input range of 160-300VAC (Phase to Neutral)				
	Soft Start Feature	Inbuilt				
	Automatic Bypass	Automatic Bypass activates incase of a fault condition				
	System Status Indicator	Green LED (ON) indicates Normal (Regulating Mode) Operation				
	Surge Test Conditions	Per Class 2 Surge (Combination Wave)				
	Surge Let-through Voltages	1.2 X 50 µs, 6 kV, 8 X 20 µs, 3 kA waveform. Line-Neutral < 300				
	AC Connection	Terminal Block (L1o, L2o, L3o, neutral and ground wires) provided				
PHYSICAL (W x H x D)	Dimensions	610 x 570 x 610				
		24" x 22.5" x 24"				
	Weight	77 kgs (170 lbs)	91 kgs (200 lbs)	109 kgs (240 lbs)	136 kgs (300 lbs)	152 kgs (335 lbs)
SAFETY	Standards	Designed to meet UL 60950-1 standards. Protection class IP 20.				
ENVIRONMENTAL	Ambient Temperature	0° to +40° Celsius (32° to +104° Fahrenheit). 10 to 90% RH non-condensing				
	Cabinet Cooling Method	Fan Cooled				
WARRANTY	Validity	Two Year Warranty, covering repair/replacement of defective parts				